DECODING NEOLITHIC ATLANTIC & MEDITERRANEAN ISLAND RITUAL

Edited by

GEORGE NASH AND ANDREW TOWNSEND

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For Bronislaw Malinowski - an island man throughout

Coastal sailing as long as it is perfectly safe and easy commands no magic. Overseas expeditions are invariably bound up with ceremonies and ritual. Man [humans] resorts to magic only where chance and circumstances are not fully controlled by knowledge.

Bronislaw Malinowski (1931)

Contents

Contributors
Dedication Andrew Townsend
Introduction George Nash & Andrew Townsend

1. Collective spaces and material expressions: ritual practice and island identities in Neolithic Gotland
   Paul Wallin and Helene Martinsson-Wallin
2. Monuments from the doorstep: exploring the temporal, spatial and social relationship between chambered cairns and settlements during the Orcadian Neolithic
   Christopher J. Kerns
3. An island archaeology of Neolithic Ynys Môn (Anglesey)
   Gary Robinson
4. Uniformity and uniqueness: the extraordinary Scillonian entrance graves
   Laurie Waite
5. Ritual competition in the Final Neolithic of the Channel Islands
   Paul-David Driscoll
6. Establishing a diverse architecture: contextualising the Delancey Park gallery grave, north-east Guernsey
   George Nash
7. Re-viewing the megaliths of northern Guernsey
   Kevin Jelly
8. Defying expectations: Neolithic life in the Isles of Scilly
   Trevor Kirk
9. Rite to memory: Neolithic depositional histories of an Adriatic cave
   Timothy Kaiser and Stašo Forenbaher
10. Moving worlds: memory, mobility and mortality in the aceramic Neolithic of Cyprus
    Paula L. Lutescu-Jones
11. Ritual and religion in Neolithic Crete?
    Alan Peatfield
12. Ancestors in the rock: a new evaluation of the development and utilisation of rock-cut tombs in

Copper Age Sicily (4000–3000 cal BC)
Jennifer Wexler

13. Journeys through the underworld in Late Neolithic Malta
Reuben Grima
14. Searching beyond the artefact for ritual practices: evidence for ritual surrounding the unclothed human body on prehistoric Malta during the temple period
Andrew Townsend
15. The Neolithic in La Balagne, Corsica: an evaluation using palynological, geoarchaeological and landscape archaeological data
Keith N. Wilkinson, Nicholas P. Branch, Marcos Llobera, Nathalie A.F. Marini, Sylvain Mazet and Michel-Claude Weiss
16. Houses fit for deceased dwellers: assessing architectural devices within the rock-cut tombs of north-western Sardinia
Paola Arosio, Diego Meozzi, Antonello Porcu and George Nash

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DIEGO MEOZZI has worked as a freelance journalist for over 31 years, writing more than 2000 articles for a number of Italian magazines. As a webmaster he created his first website in 1996 (Stone Pages, devoted to the ancient stone monuments of Europe) and currently manages a publishing house – *Cartabianca Publishing snc* – with Paola Arosio. As a renowned photographer, his images have been published on many covers of music, video and astronomy magazines, on the NASA website and in several books. His *Stones of Stenness* image is on the cover of Van Morrison's CD *The Philosopher's Stone*. As a QTVR expert he worked for Ferrari, FIAT and Alfa Romeo, making virtual movies of their cars. He also worked as a director for a series of touristic videos made in Turkey and Portugal. As a musician, he composed the music for a number of tourist videos. In 1993 he had the chance to work with Peter Gabriel on his live album *Secret World Live*.

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LAURIE WAITE studied British Prehistory at the University of Bristol and is vice-chair of the Clifton Antiquarian Club which is currently excavating three Bronze Age and Neolithic sites in Guernsey. His particular interest is the Neolithic of Western Europe and its monuments.

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Dedication: Andrew Townsend

It is with great sadness that co-editor Dr Andrew Townsend passed away during the final editorial stages of the book. Among many of Andrew's interests, he had a wealth of knowledge concerning island archaeology, in particular research into Neolithic mortuary practices on Malta and Gozo. It is a fitting statement that his interests of prehistoric societies in an island context should be his last publication. Although Andrew has now gone, his legacy through publication and reputation will remain for many years to come. This book is dedicated to Andrew and the inheritance he has given to archaeology.

Introduction

George Nash & Andrew Townsend

'An island is a piece of land that is surrounded on all sides by water. Some *islands* are so small that a beach chair and umbrella barely fit on them and some are big enough to contain a whole nation.'

More than just lumps of rock in a sea or ocean

What constitutes an island and the archaeology contained within? Is it the physicality of its boundary (between shoreline and sea)? Does this physical barrier extend further into a watery zone, as with modern geopolitical sovereign boundaries (what are also referred to as 'exclusion zones')? Archaeologically, can islands be defined by cultural heritage and influence? Clearly, and based on these few probing questions, islands are more than just lumps of rock and earth sitting in the middle of a sea or ocean. An island is a space which, when described in terms of topography, landscape form and resources, becomes a place. A place can sometimes be delineated with barriers and boundaries; it may also have a perimeter and can be distinguished from the space that surrounds it.

> 'Finding Place: The notion that place can take on many guises and mean different things to different people is not new and, certainly within archaeology, we have made a number of observations suggesting that place is a multifaceted component of understanding who we are and where we stand in the grand scheme of things. Place can be seen as a small feature within, say, a park or a road, or it can be an island, region or even a country, defined by the physicality of boundaries but also by cultural identity, linguistics, politics and religion. Place creates individual and group identity through a number of interconnected constituents that include agency, behavior and, of course, history' (Gheorghiu & Nash 2013, 2).

Using the concept of the island, its physicality embraces all of these theoretical and tangible qualities. In the past, much of the archaeological theoretical discourse associated with islands has been limited to just a handful of works (e.g. Patton 1996; Rainbird 2007). It is fair to say that individual island studies incorporating a Neolithic section are numerous; however, much of this research has focused around empiricist approaches that extend no further than mere description, culminating in a compare and contrast exercise. This is not to say that such an approach is not useful. A number of the chapters in this volume are reliant on data-gathering in order to say something meaningful and it becomes apparent that the material culture, monumentality and the way 'islandscapes' are used says something about the

Neolithic mindset of the individual or community engaged in social organisation. It should be noted that the term 'Neolithic' has to be used with caution, especially in an island context. As the late Ian Kinnes once remarked 'Islands are a microcosm of changing and movable economies; Neolithic in terms of chronology, could actually be represented by a hunter/fisher/gatherer way of life'; a concept that was explored in his work on Megalithic monuments in the Channel Islands (Kinnes 1988).

Defining islands

In order to grasp some of the many facets of island archaeology, it is first necessary to define what an island is, and what types of island there are. A great deal of current method and theory is rooted in the study of Pacific island cultures (Bellwood 1987; Conolly & Campbell 2008; Irwin 1992; Kirch 1986; 1989; 2002; Lilley 2006; MacArthur & Wilson 1967; Terrell 1988) and which have also informed studies concerning the Mediterranean (Cherry 1981; 1990; Evans 1973; 1977; Korfmann 1988; Patton 1996; Phoca-Cosmetatou 2011). With the Atlantic façade, a similar set of approaches have been applied (e.g. Cunliffe 2001; Nash 2012). The geographical distribution of the Pacific islands is, however, markedly different from the Mediterranean and Atlantic Seaboard. The case of the Pacific islands has, nevertheless, been highly informative for island studies globally. When compared to the Pacific, however, all the islands discussed in the present volume are relatively close to a mainland.

The common understanding of an 'island' is an area of land surrounded by water (i.e. the aquatic realm), but islands also comprise land-locked areas demarcated by contrasting terrains. Furthermore, a number of islands, Australia for instance, comprise land-masses of continental proportions and are, perhaps, not islands at all. So there are many variables to consider when studying island cultures. According to Whittaker (1998, 7), there are essentially four categories of physical island:

- Oceanic islands: islands located over an oceanic plate and never having been connected to a continental land-mass;
- Continental-shelf islands: islands located on a continental shelf, possibly having been connected to a mainland during periods of significantly lower sea levels;
- Habitat islands: 'islands' comprising relatively limited areas of terrestrial habitat surrounded by markedly different habitats (but not water); and
- Non-marine islands: islands that characteristically sit between continental-shelf and habitat islands.

The islands covered by this volume would appear to fall mainly into the 'continental-shelf island' category, the largest of which is arguably Sicily (25,700 sq. km) and the smallest Guernsey (78 km^2) (Fig. 1). The factors that condition island life are manifold and, in addition to the effects of insularity (or relative insularity), include the availability of natural resources (water, minerals, flora, fauna, marine resources), altitudinal zonation and general suitability for settlement. The work of MacArthur & Wilson (1967) in the 1960s (and later Keegan & Diamond 1987) was seminal in establishing the basis for an understanding of island habitats from a bio-geographical perspective; much of their work also features in studies concerning the human settlement of islands and subsequent adaptation trajectories, and is apparent in the work of the present authors.

The island-specific factors discussed by the authors in the present volume are highly relevant in

relation to the manner in which both animals and humans adapted, survived and in cases failed in their island environments. There can be little doubt that island environments presented significant challenges to colonising humans in prehistory. Perhaps too frequently though, island environments have been viewed as problematic and a barrier to human adaptation. Conversely, such environments can also, in cases, afford benefits to human populations, such as the ready access to marine resources. Given the desire, islands also enabled societies to forge discrete social identities or possibly adapt a strategy of deliberate isolation. Such actions may have resulted from the effects of socio-economic dynamics of a much larger geographical area/interaction sphere. As the chapters in this volume demonstrate, while island geographical features are a factor in social development, they are not necessarily a determinant.

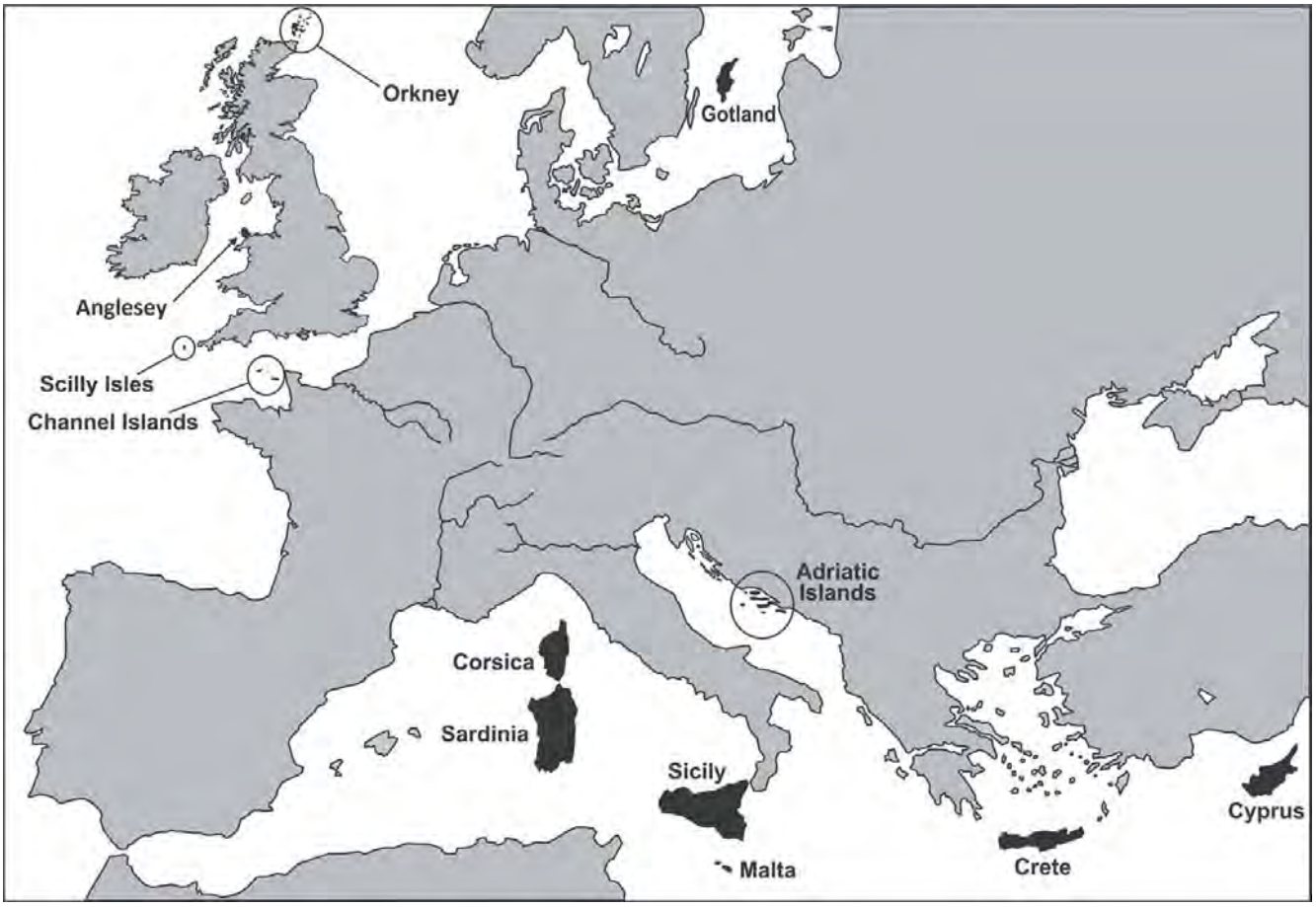

Figure 1 The islands and archipelagos of Europe (covered in this volume)

Colonisation of islands by humans

Much has been written about the factors underlying the human colonisation of islands, with a particular emphasis on the Pacific (Lilley 2006) and, to a lesser extent, the Mediterranean (Cherry 1981; 1990; Evans 1977; Guilaine 1979; Marangou & Della Casa 2008; Phoca-Cosmetatou 2011; Robb 2001).

It would be reductionist to apply a standard set of criteria to all islands in the expectation that this would reveal answers as to the circumstances for successful colonisation. Each island, or group of islands, is unique and commands individual consideration. There are, however, common factors that appear to lie behind island colonisation. Patton (1996, 43), for instance, has summarised the socio-geographic features of Mediterranean islands that are used in formulating predictive models:

- Distance (i.e. as defined by the longest single sea-crossing required to reach an island);
- Surface area;
- Target/Distance Ratio (TDR); and
- Visibility.

Wittingly or unwittingly, archaeologists frequently refer to the above when formulating ideas concerning island cultures and all feature in varying degrees in the chapters that make up this volume. In many respects though, this formulaic approach is far too limited and predetermined. The physicality of an island mass cannot determine what an island is. Other factors such as biodiversity, genetics, insular character, identity and cultural tradition are just a handful of traits that establishes an island as seen through its (prehistoric) material culture and monument building. In the present volume, it is suggested that distance would not necessarily have been as issue. The Mediterranean and the Atlantic façade incorporate vast areas of open water; however, Neolithic seafarers managed to navigate to island groups such as the Isle of Man, the Isles of Scilly and Malta, and either establish or influence island communities to adopt a Neolithic package or ideas. It is also advocated that island intervisibility, where this existed, would not necessarily have determined socio-economic outcomes. In many cases, the island is…an island, insular but distinct.

In terms of surface area, the range of islands distributed around the coastal fringes of Europe varies considerably, from the extensive hinterlands of Crete and Cyprus to the relatively small rugged islands of Guernsey and Jersey. In both instances, Neolithicisation became embedded and in some ways its material culture and monument building has influenced regions.

Based on the chapters in this volume, an alternative set of principles is proposed that would have shaped Neolithic island communities based upon socio-political complexity and behaviour within island development:

- Socio-political stress;
- Cultural Identity (through creativity and the resultant materiality);
- Accessibility and isolation (honed visits and expeditions);
- Exchange Philosophies (socio-cultural diffusion and differentiation through economic and cultural systems that operated in conjunction with contact/exchange systems); and
- Tangibility (the item object: material culture).

It is argued that the principles set out above are based on a determined set of circumstances that are integral for communities who inhabit islands. These are, however, based on two general assumptions. Firstly, are islands being inhabited during the Neolithic for the first time, or are there (or were there) earlier communities (hunter/fisher/gatherer) already in residence? It can be assumed that some island communities were periodically under stress both economically and politically; in cases, the majority of this stress might have emulated from the development of social ranking. Although using a terrestrial-based model, Yesner (1980, 727–750) has identified a series of points that characterise the emergence of social complexity, coupled with a shift towards marine/coastal adaptation, especially where there was a need to support growing residential populations. It has been estimated that early prehistoric groups numbered 45–240 individuals (Rowley-Conwy 1981, 55). The basis for Yesner's arguments on the emergence of social complexity is rooted in the semi-sedentary populations of the north-west coast American Indians. The environment, and arguably the social organisation and

structure, can also be applied more generally to island communities. It is apparent that large populations require a greater level of social organisation. Clive Gamble (1986, 41) has suggested hunter/fisher/gatherers adopt a 'communal interplay' between 'organisation and scheduling of work parties to exploit the scattered resources of the environment'. Further, he links organisation with the wider implications of alliance through marriage and goods exchange; something that is clearly recognised within the anthropological and ethnographic records for island communities (e.g. *Kula* exchange). Yesner's 10 points outlined are particularly dependent upon environmental considerations (1980, 729). They are;

- Higher resource biomass;
- High resource diversity;
- Lower resource seasonality;
- Unearned (migratory) resources;
- Linear settlement patterns;
- Sedentism;
- Complexity and co-operative socio-economic factors and resource exploitation;
- High *per capita* productivity;
- High population density; and
- Territoriality, resource competition and warfare.

As the reader will notice, many, if not all of these considerations identified by Yesner have contributed to our understanding of how communities first inhabited, developed, interacted and survived on these most complexes spaces within Atlantic and Mediterranean fringes of mainland Europe. Moreover, one can also see from each chapter that island living was, and is, a diverse affair that would have involved numerous dynamics, either the result of human agency, the availability of environmental resources or a combination of both.

The case studies in this volume do not claim total uniqueness in terms of the societal developments suggested by the data and it is accepted that similar processes could be argued for both island and mainland contexts. Each setting is, however, unique and it is argued that the island-specific attributes of each case was a factor in terms of the outcomes as manifested in the archaeological record.

In mainland and island contexts, predictive models will not uncommonly be derailed by unexpected outcomes. It is a common assumption, for instance, that societies will undergo periods of creativity only in times aplenty or when social stability permits. This appears not to be the case and instances are known in which artistic output and expression actually increased during times of threat and insecurity (Taçon 1983). Important for the present volume is the premise that traces in the archaeological record can be identified as the material expression of ritual action in the distant past, as approached by a number of the authors. The instances of this are considered very much with an island complexion in mind to tease out what is specific to each individual case.

The island as 'laboratory'

Island settings are considered particularly useful for the study of prehistoric cultures in that they constitute contained, or geographically-isolated areas of land and have consequently been referred to

as ‘laboratories’ (Evans 1973). In archaeology, the notion of the island as a laboratory in which ‘cultural experiments’ took place grew out of the scientific positivism of the New Archaeology of the 1960s and 1970s (Rainbird 2007, 2). The study of islands, as laboratories, has included the pre-human-settlement environment that, in cases, witnessed the evolution of island-adaptations of animal species (Davis 1985; Schüle 1993; Sondaar 1977; 1986). The laboratory metaphor has not gone uncriticised, namely in that is has been used as a convenient archaeological test-bed that possibly reflects more the intuition of the investigator than is does prehistoric social reality. There is, however, a compelling case for using the bounded nature of islands as a means by which to examine the development of prehistoric cultures, so long the full range of variables are considered.

Island insularity

A key question often asked of island societies relates to their level of insularity, if any, from adjacent mainlands or neighbouring islands (Robb 2001; Townsend 1996). The level of insularity, which might have varied through time, is considered to be a factor in the study of island societies and is likely to manifest itself at some level in the archaeological record. Remote island societies that are considered to have developed in more or less total isolation are likely to betray different cultural characteristics to those for which contact with adjacent mainlands, or other island communities, was regular, if not continual. It is often thought that island societies, particular those that developed in isolation, or relative isolation, have the tendency to express themselves in an exaggerated fashion (Sahlins 1955). As Rainbird (2007, 35) notes, however, it is not only on islands that ‘exaggerated’ forms occur. Clearly, an understanding of such traits, as with the ‘island laboratory’ model, requires an approach that goes beyond bio-geographic features and constraints (cf. Rainbird 2007, 2).

This briefest of introductions to ‘island archaeology’ only touches on the vast range of physical and theoretical variables involved in the study of island cultures but the questions posed highlight why it is a subject so worthy of continued study.

This volume, composed of 16 thought-provoking chapters, includes most but not all the islands, islands groups and island archipelagos within Atlantic and Mediterranean Europe that possess a Neolithic legacy. Care has been exercised so not to compartmentalise the book into the traditional views of what the Neolithic package is; rather an holistic view of ritual island-life during a period artificially called the Neolithic has been adopted. As the reader will note, island traditions during this time in later prehistory were extremely dynamic, sometimes involving a fusion of ideas between the old way of life and new island change, what archaeologist J. X. W. P. Corcoran referred to as ‘hybridization’ (Corcoran 1969). It is probable that island insularity maintains island identity which leads to a whole new set of issues in determining character, distinctiveness and sustainability. Some of these attributes are tangible and can assist in understanding, albeit at a basal level, the potential complexity of island life.

Different Neolithics, different islands

The island-specific chapters comprising this volume explore archaeological evidence for the Atlantic Seaboard and Mediterranean Neolithic. The geographical and temporal separation of the ‘island’ communities discussed is considerable, as are the island settings. With each case there is a diverse set

of themes based on an overriding set of ritualised universal constructs. A key issue is whether these constructs moved across the Neolithic world as a set of ideas that had their origins for both Mediterranean and Atlantic Seaboard in the eastern Mediterranean?

Clearly, and especially in terms of monumental architecture, some of the island societies discussed in this volume were markedly different to their mainland counterparts in, for instance, the LBK cultural area of central Europe. First and foremost, there appears to be an overwhelming desire to process or bury the dead in some form of demarcated and covered space. Not surprisingly, this basic concept is present in both the anthropological and ethnographic records. The basic concept of demarcated and covered spaces can be partially understood by considering the architectural devices employed to create them. Those regions of Europe where Neolithic communities (aceramic or ceramic) made use of caves and rock shelters to bury the dead demonstrate the selective and careful use of space for this purpose (Bradley 2000). Likewise, when constructing artificial caves for the dead, Neolithic tomb builders on the islands where burial-ritual activity is present observed a series of simple architectural protocols that generally involved chamber/entrance/passage/mound. How these protocols were manifested in construction was dependent on local and regional communal design-coding (Bradley 1998; Nash 2012). As the reader will note, the case studies chosen for this volume reveal clear local/regional stylistic traits and distribution. Similarly, the same can be said for the accompanying material culture and the way monuments and items are distributed.

For the present volume, the north-eastern Atlantic (the Atlantic Archipelago) is represented by Paul Wallin and Helene Martinsson-Wallin who discuss the sacred geography and material culture of Neolithic Gotland, Sweden. Gotland is the northernmost of the islands covered in this volume. Christopher Kerns explores similar themes to the Wallin and Martinsson-Wallin chapter but focuses on the complexities of the Orcadian Neolithic (Orkney islands). Other Atlantic Archipelago islands discussed include Anglesey (Ynys Môn: Gary Robinson), Guernsey (Kevin Jelly and George Nash), Jersey (Paul Driscoll) and the Scilly Islands (Laurie Waite). The levels of insularity of each of these island groups during prehistory probably led individual communities to develop architectural variations on a generic theme.

The Mediterranean region is represented by a different type of Neolithic, both in terms of architecture and material culture. Kaiser and Forenbaher discuss the theoretical constructs and ritual deposition in a cave along the Adriatic coastline. Within the same Mediterranean region, Paula Jones looks at the aceramic Neolithic of Cyprus, focusing on death and memory, as does Alan Peatfiled who reflects on ritualised and religious aspects of Neolithic Crete. Further westwards, Jennifer Wexler explores the material culture and ritualised practices associated with rock-cut tombs in Copper Age Sicily. Reuben Grima, writing in a similar vein to others in this section, discusses the metaphysical journeys associated with the underworld in Late Neolithic Malta with reference to the World Heritage Site of Ħal Saflieni. A not too dissimilar approach to the Maltese material is taken by Andrew Townsend who examines the possible role of Temple Period art in ritual activities. Finally, and somewhat completing a circum-navigation of the Neolithic sea-world that was European coastal façade, Keith Wilkinson, Nicholas Branch, Marcos Llobera, Nathalie Marini, Sylvain Mazet and Michel-Cluade Weiss uses palaeoenvironmental evidence to explore the Neolithic monuments of Corsica.

The widespread and variable context of the studies in cases thus affords a ‘comparative’ approach

to the theme (Campbell & Conolly 2008).

The cases examined attempt to illustrate the diversity of the evidence available that affords a better understanding of the European-Mediterranean Neolithic 'island society', not least the effects of interaction/contact and/or geographical insularity/isolation, all factors that are considered to have consequences for the establishment and modification of cultures in island settings (Held 1993).

While the use of the term 'island archaeology' has been questioned (Rainbird 2007) it is employed liberally in the present volume at a general level to afford discussion of the archaeological data for each island or group of islands that, after all, are in themselves modern-day attributions (i.e. geographically, socio-politically). Rainbird (2007, 45, 163) prefers the term 'archaeology of the sea'. The preferred use of the term 'island setting' above possibly has the advantage of allowing for a greater spectrum of human activity to be embraced by studies. But if it is not possible to speak purely of an 'island archaeology', it is possible to speak about 'island archaeologists' such as the contributors to this volume. Whatever terminology is employed, the contributors to this volume have embraced the important issues regarding archaeological enquiry as it relates the islands of the Mediterranean and eastern Atlantic Seaboard.

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1

Collective spaces and material expressions: ritual practice and island identities in Neolithic Gotland

Paul Wallin and Helene Martinsson-Wallin

In this chapter we explore the mid-Neolithic ritual evidence associated with the Pitted Ware Culture groups on the Island of Gotland in the Baltic Sea. We discuss collective spaces and actions and question whether the graves are the result of a sedentary-settlement concept. A nuanced approach is advocated, which brings to light the complexity of the individual inhumations found at cemeteries as part of ritual actions tied to specific place and collective space alike. These burials are apparently part of a collective ritualised expression, but also individualised in terms of the personal expressions found in the grave goods, body position and treatment of skeletal remains. We will use several case studies which will explore group identity and dynamics in an island context as well as how certain expressions are seen in the individual grave-rituals.

The Neolithic package that includes pottery and the introduction of domesticated animals and plants has been identified on the island of Gotland, in the Baltic Sea from c. 4000 cal BC, which is in line with the Neolithic time-frame in the rest of Scandinavia. It has proved to be a dynamic period, especially in regard to the island setting of Gotland, which is at the crossroad of various socio-symbolic interactions. There are clear variations to be seen in the material culture and lifestyles during the Neolithic on Gotland (Wallin 2010a). The Early Neolithic Funnel Beaker Culture (FBC), with its typical pottery style and evidence of crop cultivation and domesticated animals such as pig, sheep, goat and cattle, had reached the island during the Early Neolithic and is generally found in areas with sandy soils that were easy to cultivate. The concept of collective megalithic graves, which belong to the FBC is present on Gotland but so far only one such grave has been found and studied (Bägefeldt 1992; Lindkvist 1997; Martinsson-Wallin & Wallin 2010a; Wallin & Martinsson-Wallin 1997). This is a rectangular-shaped

dolmen dating to c. 3200 cal BC.

Collective or single graves with stone cists surrounded by concentric stone circles are typical of the Late Neolithic and are generally dated to c. 2300–1700 cal BC. The lifestyle of these Late Neolithic groups is based on husbandry/stock farming rather than cultivation. During the Middle Neolithic (c. 3200–2300 BC) there were groups on Gotland who displayed a sub-Neolithic lifestyle. Although they used pottery and probably kept domesticated animals, they were focused largely on hunter-gatherer strategies. These groups are collectively referred to as the Pitted Ware Culture (PWC), due to the characteristic pitting on their ceramic vessels. Evidence of people associated with this tradition has been found in coastal areas and within seal-hunting sites on the eastern and southern coasts of Sweden, and in parts of Denmark and South Norway (Burenhult 1999, 324). A close relationship is also found with groups on the Baltic Islands of Öland and Åland and with the Comb Ware Culture found within the Baltic countries and the coastal areas of Finland (Timofeev 2000, 212).

Although the cultural sequence, social space and ritual life are complex on Gotland during the Neolithic, the authors will focus mainly on the well-known Middle Neolithic PWC cemeteries and only briefly discuss other ritual expressions during the Neolithic time frame since these are less well researched. The PWC sites have been known from the end of the 19th century and several sites have been excavated since. Site complexity and group identity are discussed to shed light on the organisation of these cemeteries, especially based on the new DNA and chronological evidence from the PWC site at Ajvide (Skoglund *et al*. 2012). Another issue discussed is that there might have been different burial rituals for different individuals, especially at the PWC sites. It is also evident the manipulation of certain buried bodies was tied to cultural practices since general trends can be detected. Furthermore, among and within the PWC groups, there are distinctions concerning body orientation and grave goods between males, females and children at different ages and some of these trends will be considered in this chapter.

The main sites discussed (Fig. 1.1) are the dolmen at Ansarve in Tofta Parish and three PWC sites. The Visby site was found underneath the cultural layers of the medieval city situated on the west coast, Västerbjers lies in the northeast and Ajvide in the southwest of the island. The authors will briefly discuss the only known cult-house on Gotland at Nygårdsrum, to date, which is dated to the Late Neolithic. The above mentioned sites have been excavated at different times. The Ansarve dolmen was investigated by the authors in 1984 (Bägerfeldt 1992; Wallin and Martinsson-Wallin 1997; Martinsson-Wallin and Wallin 2010). The PWC site, Visby, has been investigated more or less continuously since the late 1800s (Nihlén 1927; Janzon 1974; Flyg & Olsson 1986). The grave field of Västerbjers was extensively excavated during the 1930s and published in a monograph by Stenberger (1943) and Ajvide was extensively investigated during seminar excavations of Stockholm and Gotland universities between the years 1983–2009 (Burenhult 1997; 2002; Österholm 1989; 2008; Norderäng 2010). The Ajvide cemetery was analysed in different ways and at different times (Nihlén 1927; Hallin Lawergren 2002; Fahlander 2003; 2010; Kristiansson 2000; Andersson 2012). The stone cist and cult house at Nygårdsrum were excavated in the late 1960s but have so far not been extensively discussed and the report has not been published (Hallström 1971).

Ritual expressions – Collective place and space

The dolmen at Ansarve – A "Farmhouse" for the dead

The Megalithic dolmen at Ansarve (Fig. 1.2) is the only burial site associated with the late phase of the Early Neolithic Funnel Beaker Tradition found on Gotland. The dolmen was first excavated (really just scooped out!) during the early 20th century but re-excavated by us in 1984 (Bägerfeldt 1992; Martinsson-Wallin & Wallin 2010). The bones were quite fragmented, some were found inside the chamber, but the main part in the spoil heap outside the megalith and the capstone had long since been removed (Lithberg 1914). We could identify 31 individuals of all age groups (Wallin & Martinsson-Wallin 1997). Three jaws have been dated to c. 3200 cal BC and the ^{13}C value of these suggests a terrestrial diet for these individuals. However, it is not certain if all are from the first phase of burials since the place was re-used as a ritual/burial site during the Bronze Age and Early Iron Age (Martinsson-Wallin & Wallin 2010). Collective cemeteries in the form of megalithic tombs are common in South and West Sweden during the Early Middle Neolithic (Sjögren 2003; Blomkvist 1989) but as mentioned above only one such monument has so far been found on Gotland. It is believed that these sites are cemeteries belonging to an extended family or clan group. They have been described as "houses" for the dead, and manifestations of a cultural move from a Mesolithic (nature/wild) to Neolithic (culture/domesticated) lifestyle (Tilley 1984; Hodder 1990; Bradley 1998). The date and the building tradition of the Ansarve dolmen have parallels in Eastern Scania and in North Germany to the south of Gotland. Since the main bulk of the bones were separated from the tomb and very fragmentary it was not possible to say if they had been cleaned or placed in certain positions which made it impossible to identify specific mortuary practices. The entrance was, however, accentuated with two threshold stones, set on edge. A sandstone orthostat with a zigzag pattern was found in the rectangular enclosure as well as flakes of local flint just outside the entrance. Amber fragments and south Scandinavian flint flakes were also found which indicate the importation of exotic items. The flaking of the flint has been suggested by the authors to be part of a ritual act that prevailed in Gotland and is associated with burial-ritual monuments (Martinsson-Wallin 2010, 70–74).

At the time of consruction and use, this monument was situated very close to the seashore but due to extensive shoreline displacement it is today located several kilometres inland. The direction of the entrance is facing inland, to approximately north-east, but there is no evidence to suggest that this had any ritual significance. Lindström, who made a study of the orientation of ancient monuments in Scandinavia, is of the opinion that orientation and alignment towards celestial objects were important, but difficult to assess. He indicated that orientation of monuments and buried individuals from prehistoric Gotland ranging from the Late Neolithic to the Viking Age are generally placed in a north-south direction but deviating 10–20° clockwise from the cardinal points (Lindström 1997, 116).

There were no finds of FBC pottery close to the megalith but a few excavated sites on Gotland have yielded such pottery, especially one site, Mölner, which has been interpreted as a settlement in a lagoon/lake area c. 10 km inland to the east of the megalith (Österholm 1989, 72–84). Clay analysis of the pottery indicates a non-calcareous clay tempered with sand which suggests that it might not have been made locally, since local clays are calcareous, but probably brought to Gotland by the early farmers (Österholm 1989, 81). Dated samples from Mölner indicate a Neolithic introduction on Gotland as early as c. 4000 cal BC but further research is needed to confirm or refute this early Neolithic introduction. As only one megalith site has so far been found and it has been dated to be almost contemporary with the earliest and more prevalent PWC sites, the interpretation is that the

farming lifestyle did not become successful on Gotland at this time.

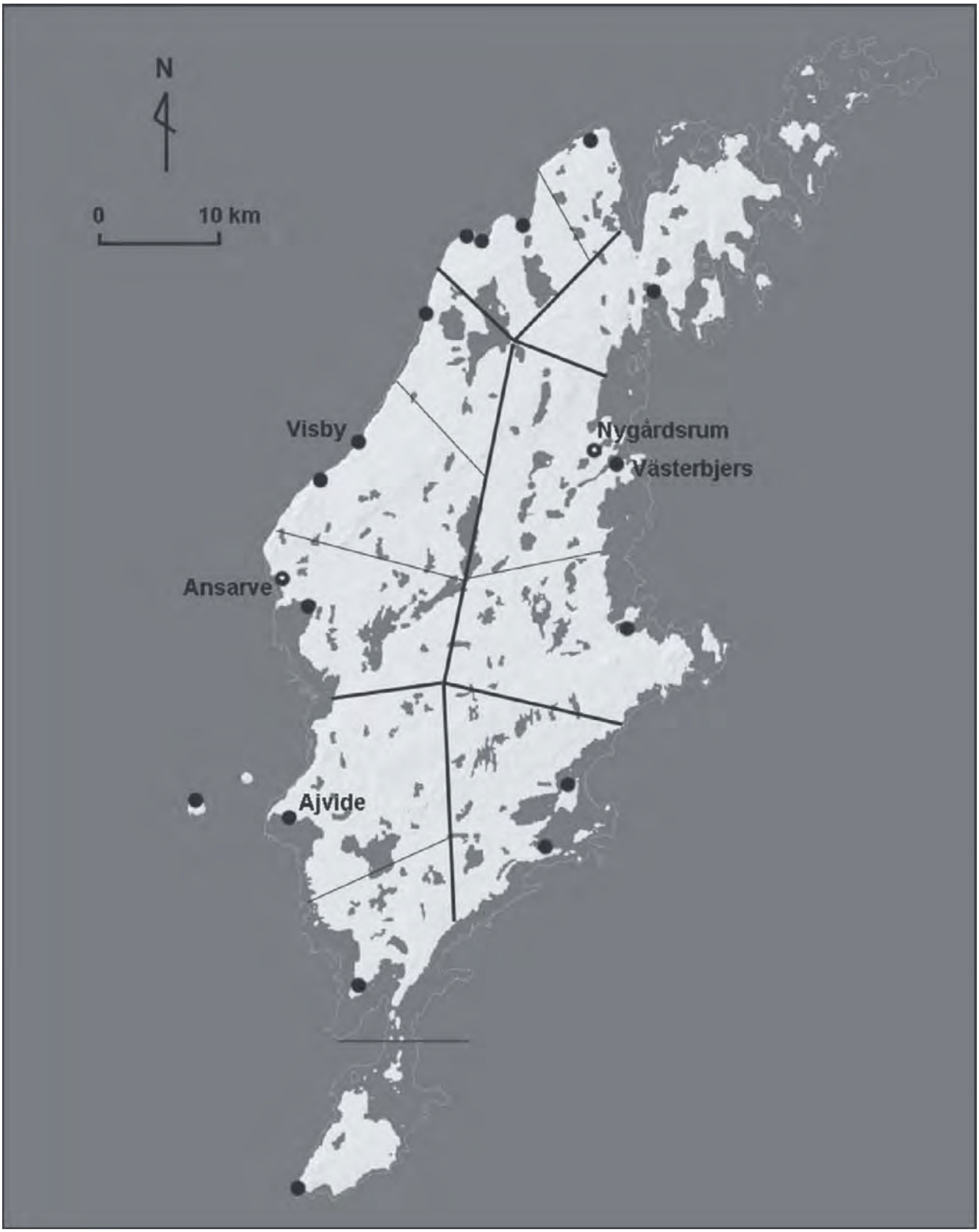

Figure 1.1 Map of Gotland with possible PWC territorial areas indicated as well as the shoreline at c. 3000 cal BC. Discussed sites are indicated by names

Pitted ware group dynamics - Collective spaces and Island divisions

In the Middle Neolithic (c. 3200–2300 cal BC) the sites on Gotland exhibit the typical PWC pottery. These sites are all situateded by the coast and Österholm (1989) has indicated that there are seventeen such sites located in twelve areas on Gotland (Fig. 1.1). The lifestyle of these groups can be called sub-Neolithic due to a pronounced hunter-gatherer strategy which is indicated not only by the faunal remains at the sites but also by high ^{13}C (around –15) values of dated human skeletal remains. Recent population studies of Neolithic groups in Northern Europe using aDNA analysis have indicated that the cultivation of crops and animal husbandry FBC groups and the hunting-gathering PWC groups are not related (Malmström *et al*. 2008; Skoglund *et al*. 2012). Since the discovery of the PWC pottery sites it has been suggested that these groups are the direct descendants of earlier Mesolithic groups or subsequent colonisers of the Island during the Middle Neolithic but this is still an open question, which the authors are currently researching. Osteological analysis of PWC human skeletal remains (Sjövold 1974) suggest that the remains from all PWC sites are generally homogeneous, but that variations occur, which the authors interpret as expressing group identity, exogamy and ritual behaviour (Martinsson-Wallin 2008). When comparing the composition of faunal remains from PWC settlements on the north, east and western sides of the island, variations are evident (Wallin & Martinsson-Wallin 1992; Martinsson-Wallin 2008). For example, pig remains were more abundant on sites on the east side of the island and seal was more abundant in the north but when comparing the faunal remains which were deposited in graves we could see that parts of pigs, especially jaws with large tusks were more frequent in the graves on the Northern sites than on the eastern side (Martinsson-Wallin 2008). Wild and domesticated animals (seal, dog, cattle, pig, sheep/goat, fox etc.) have been found at all PWC sites and therefore suggest that the environment and base for subsistence were similar on Gotland. The authors have thereby concluded that variations in the faunal remains in the cultural deposits were not caused by natural selection, but rather cultural selection (Wallin & Martinsson-Wallin 1992; Martinsson-Wallin 2008). Difference in the composition is suggested to be related to group identity which could be expressed by totems of various animals. A study of the variation of discrete traits on human skeletal remains (Sjövold 1974) paired with certain grave goods and hocker position (the two latter typical of the Battle Axe Culture) of a few buried individuals, indicate variations, and probably show external contacts especially on the east side of the Island. In the north the stature of the PWC women indicated a statistical significance in comparision with women on other sites (Sjövold 1974). In traditional accounts, it is indicated that the island was divided into north, east and western parts. This tripartite division is mentioned in the Saga of the colonisation of the Island (Nihlén 1928, 14), when Tjelvar who was the first man to colonise the island and brought the fire, distributed the island to his three sons. This tripartite division is found as administrative areas in historical times and could well have very ancient roots.

Figure 1.2 The dolmen at Ansarve (photo: Paul Wallin)

A house of death – the Late Neolithic cult house at Nygårdsrum

During the Late Neolithic, the burial tradition changes from the large coastal PWC grave fields to stone-cist burials surrounded by concentric stone circles. There are c. 100 such stone cists found all around the island, generally in close proximity to the sea (Wallin 2010, 53). The transition from Middle Neolithic hunting and gathering PWC expressions to Late Neolithic stone-cist burials and finds of the typical flint daggers and shaft-hole axes is still a research issue for debate. It is indicated that animal-farming became more prevalent again during this time but it is not clear if new immigrants settled the island or if there was a gradual change of the cultural tradition and material culture among the same population due to interaction. However, it is clear that conceptual ideas changed as we see changes in burial tradition. So far there is only one site on Gotland at Nygårdsrum (Fig. 1.3), which indicates a possible cult house and has been dated by the find material to the Late Neolithic. This Late Neolithic/Early Bronze Age stone cist is surrounded by a rounded stone packing/low cairn with several concentric circles of stone and was excavated in the 1960s. Fifteen post holes situated in an oval shape around the stone cist have been interpreted as a death house. Post holes of two hall-like buildings were found under the rounded stone packing along with ten smaller stone cists or pits found containing up to 20 infants (Hallström 1971, 114; Lindquist 1979, 38–39; Luthander 1988, 62; Sjöstrand 2012, 38). The excavation has so far not been reported and analysed to its full extent and the authors plan to undertake further research, analysis and interpretation of this site. The geographic location is very

interesting as it may very well be situated on the borders of the suggested tripartite division of the island.

The Pitted Ware sites – Places of collective and individual ritual expressions

The cemeteries at Visby and Västerbjers

With the idea of group identities in mind, as discussed above, individual expression based on the patterns observed at the two burial sites, Visby on the western side of the island and Västerbjers on the eastern side (Fig. 1.1), have been explored by Wallin (2010b). Did groups in different island locations express themselves differently using burial rites even though they belonged to the same Pitted Ware "culture"? A cemetery can be seen as the result of a social praxis expressing ritual behaviours used in a certain group. Patterns of such expressions can be observed archaeologically since the act was repeated and articulated with some variations on each occasion. The death of an individual created a turbulent situation and conflicts to be controlled, both as social and individual expressions and in both internal and external spheres (Bell 1992, 171–173). Neolithic funerary rituals deal with economic as well as symbolic expressions, but when different artefacts are placed in the grave they become a symbolic expression. This means that value and wealth can be expressed by all actions that were recognised and valued by a group closely tied together by family or kinship relations, or other group identities. This relation between values and group relationships has also been described as social capital (Bourdieu & Wacquant 1992, 119). Such factors may explain different treatments and body orientations observed in the grave material with those differences suggested to express different statuses and group belonging (Broady 1991, 179). Closely tied to the wealth/capital concept is habitus, and it is through habitus that symbolic/social wealth is working. Habitus can be expressed as social experiences, collective memory, sets of thoughts and how people act in a group, and as individuals. It is the structure people are supposed to follow without knowing it (Broady 1991, 225). Age and sex are also important variables when it comes to social organisations in so called egalitarian societies, or in classless/unstratified societies. Godelier claims that in classless societies, differentiations are made firstly between males and females, as well as within the sexes (Godelier 1986, xi). The biological determinations of sex are clear, but it is not equally clear how gender is culturally constructed and used within the local group. A way to understand such constructions is to analyse certain specified contexts (Conkey 1991, 65), in this case the individuals at Neolithic cemeteries. The division of age is also a fundamental biological fact in social construction. Age is of importance beyond the kinship structure and can be divided in different ways, for example, in age sets where certain persons of the same age are placed in groups (who are tied to each other for the rest of their life), and age grades, which is a series of life stages visible in, for example, different rites of passage (Keesing 1981, 275–278; Bernardi 1985; van Gennep 2004).

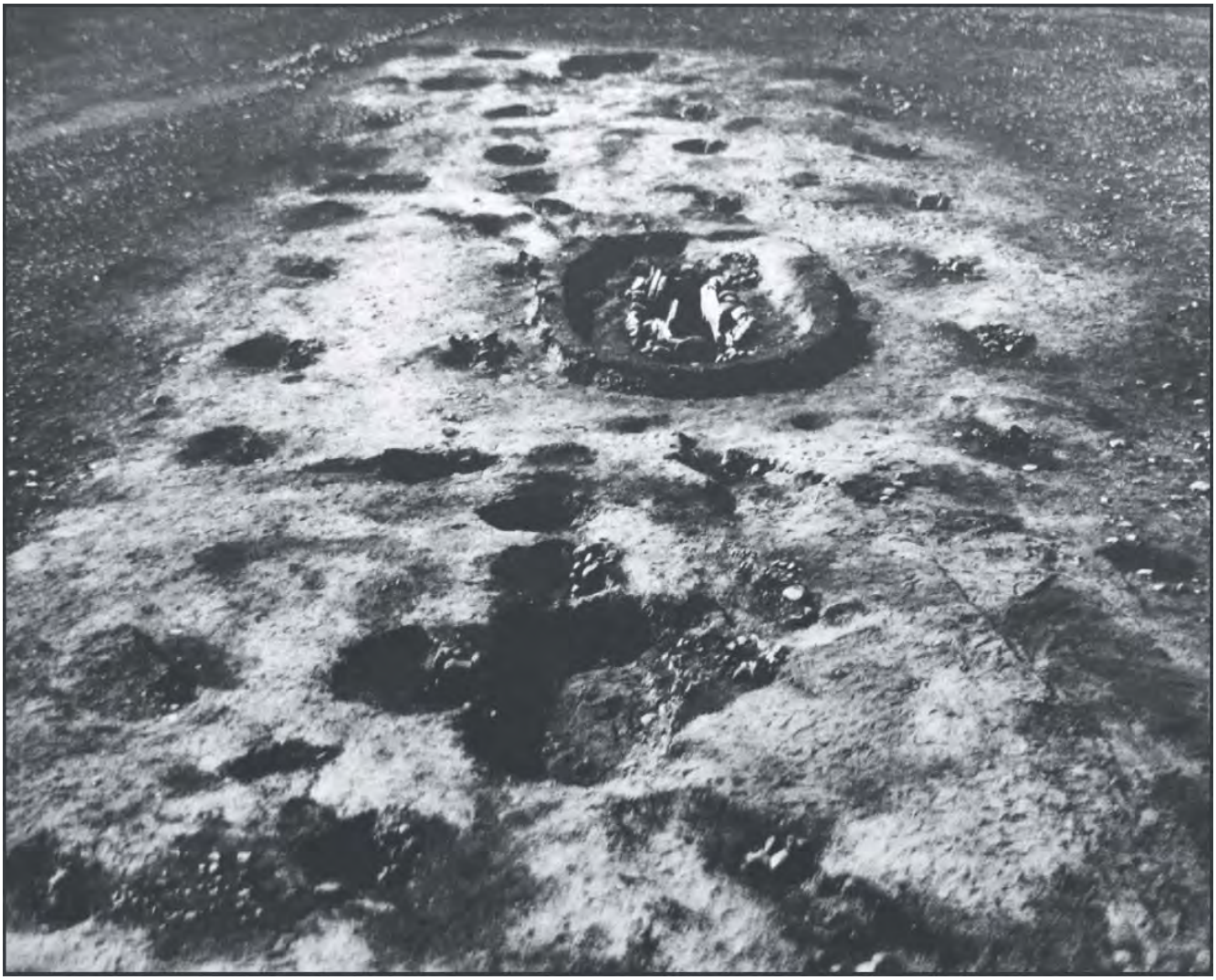

Figure 1.3 The Late Neolithic cult house/stone cist complex at Nygårdsrum (photo: Arne Hallström)

Such aspects as gender, age and wealth have been analysed in a previous paper by Wallin (2010b) with the help of relational multivariate statistics (Correspondence Analysis). When analysing the total regional population of the two cemeteries at Visby and Västerbjers, age differentiation was identified as the fundamental distinction, expressed quite similarly in the two compared populations. This is illustrated in the adult group, which represents the productive/reproductive group, has a quite uniform grave ritual, expressed by placing the body on its back with the head oriented to the north, (with some exceptions). In this group, artefacts provide distinction and in some cases also express status through imported objects. Furthermore the youngest and the oldest individuals are associated with distinctions expressed in certain grave rituals (Wallin 2010b, 72–73). This suggests that if age grades were a sign of differentiation, they were expressed in a way that was visible among the younger adult men and women due to their higher involvement in the daily social life of the community (Legesse 1979, 61). The artefacts for everyday use may represent activities that females, males and juveniles were associated with in society, both locally and regionally. Age seems to be deeply rooted in the habitus of the collective mind of the entire PWC population. Tied to this was a possibly strong symbolic expression of the funerary ritual, also deeply rooted in the habitus of the action itself.

In terms of local-status expressions, the Västerbjers site indicates larger gender differentiations

than at Visby. Here, males were associated with imported objects. Individuals buried on their side/hocker position were associated with fewer objects, which may be indicative of materially "poor" graves or that status in their cases were expressed by inconstant materials. Individual prestige was however expressed, which is seen mainly in some rich female graves at Västerbjers (Wallin 2010b, 69). At Visby, there was a more even distribution of grave goods among the buried population, where the females are associated with flint axes, and the males and juveniles are associated with amber. However, at Visby individual prestige was also expressed, both among males and females, where some people had significantly more grave goods than others. The cemetery at Visby indicates an imbalance in the proportion of buried males and females, which may indicate that certain individuals; older females and children were not buried at the cemetery, but treated in some other manner (Wallin 2010b, 69). In terms of the distinctions expressed through grave goods, symbolic and social capital appears to follow some general norms, However, in some cases supposed offerings go beyond these traditional norms (habitus) in favour of social-status expressions tied to certain individuals.

Ajvide site – a case study of place and ritual behaviour

This site is the most extensively excavated sites of the PWC on Gotland and elsewhere. Around 2000 m^2 has been excavated by hand and all material was screened. There are to date around eihty-five complete burials found which have been documented and osteologically determined (Burenhult 2002; Molnar 2008) (Fig. 1.4). The results given in Table 1 is the first time a complete overview of all the graves with the dated samples, including new dates of carefully selected samples, has been published (Table 1.1). The estimated marine correction on human remains has previously presented a problem (Lindkvist & Possnert 1997) but here, new tests of terrestrial species in correlation with marine species have been tested and a general substraction of 70 years have to be carried out on dated human remains, which is in line with recent work by Eriksson (2004). However, the dating of seal bones, pig bones and hazelnut shells collected from the deepest deposits of the cultural horizon suggests that the correction for seal bones can be estimated to around 100 years. The new chronological scheme provides the basis for discussing the various approaches and occupation of Ajvide over 800 years by sub-Neolithic groups. The authors have especially focused on chronological aspects and the organisation of the burials at the site, in addition to some examples of individual status/totem expressions.

A total of 58 ^{14}C radiocarbon dates are now available for this site (Table 1.1). Dated contexts include the "settlement" cultural horizons, individual burials or bones associated with these burials and, finally, the special activity-areas referred to as *dark soil* areas. These contexts can broadly be dated to the following phases:

- Initial use of the site as a fishing/hunting ground at c. 3200–2900 cal BC;
- Reuse of the site as a cemetery at c. 2900–2600 cal BC;
- Development of the cemetery into a ritual space with special activities (dark soil areas); and
- Continuous use of the site as cemetery c. 2600–2400 cal BC.

The selection of place – the initial phase 3200–2900 BC

At around 3200 cal BC, the coastal site at Ajvide shows initial utilisation by the PWC groups. The coastal setting of the site made it attractive for fishing and seal hunting (Storå 2001). It is questionable whether the place served as an "ordinary" settlement or, rather more likely, as a temporary place to

butcher seals and gut fish and/or for feasting. Sharp flint tools found at the site suggest that preparation of food and skin was undertaken at the site and the large ceramic vessels found would have been suitable for cooking seal blubber. Based on ethno-historic accounts from the southern part of the Island it appears that seal hunting was governed by rules with seals ritually butchered at a so called "seal altar" and divided after the catch (Österholm 1997). Pig bones associated with this initial phase were found and it is possible that some sites used during hunting seasons were also the location of feasting and other celebrations. A few dates for the Late Neolithic and the Mid-Bronze Age, suggests that Ajvide was likely to have been a significant place in later periods as well (Table 1.1).

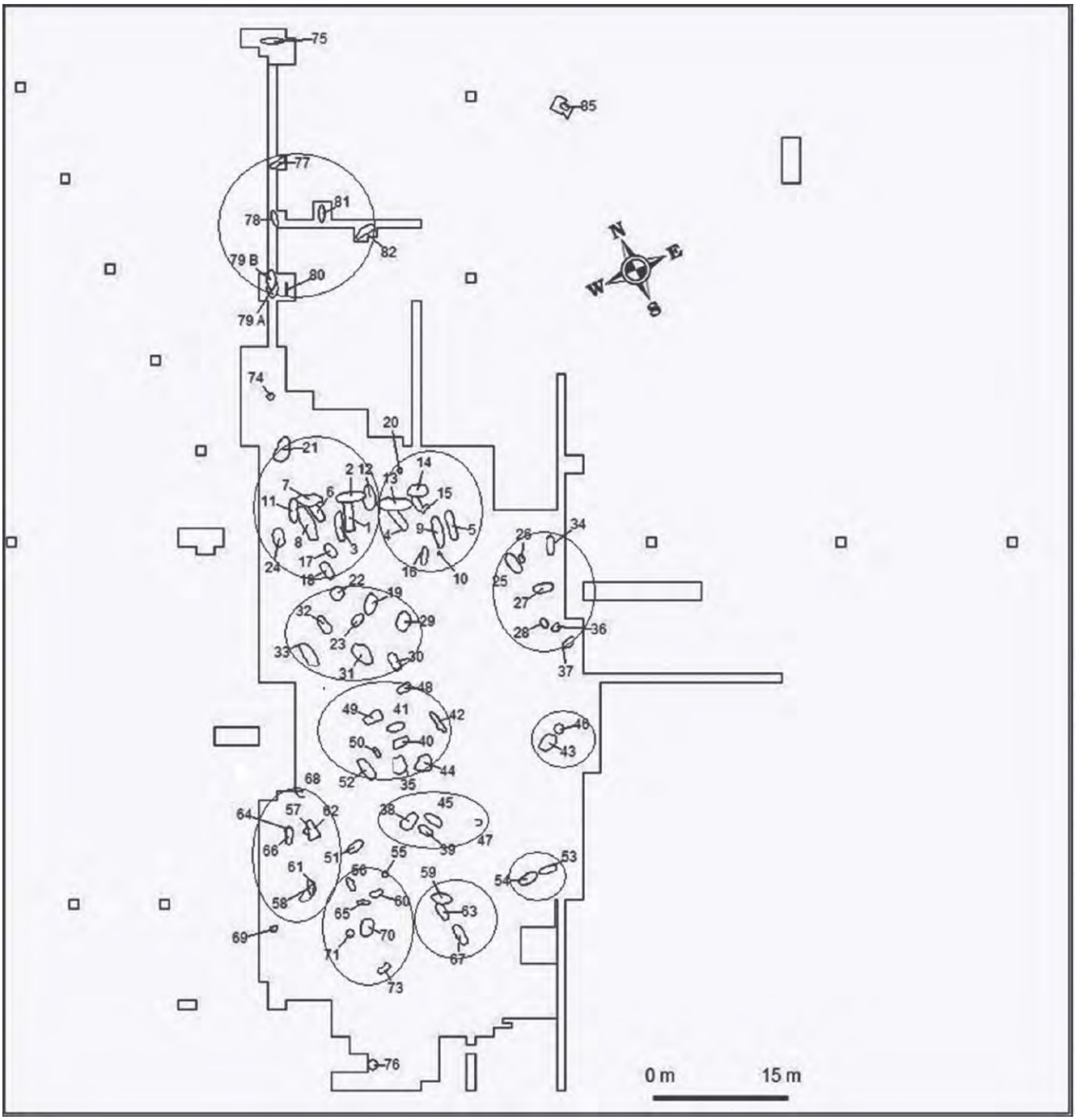

Figure 1.4 Burials at Ajvide. Clusters of burials are indicated by circles. The status of graves 22, 31, 43, & 46 are uncertain as primary burials and might constitute secondary burials since they are represented by single bones only

The detailed investigations and new dates question the idea of an ordinary settlement area and that all settlements of the Middle Neolithic were situated by the coast. Stray finds of axes and adzes are distributed over large areas suggesting that the whole island was used more actively (Bägerfeldt 1992). The rich faunal deposits found at costal locations suggest specialised food production activity is taking place (i.e. carcass utilisation). These sites also became important for the treatment of human corpses. Given the quantity of pig bones found at these sites (Rowley-Conwy & Storå 1997), it is possible this animal was used as a special food for feasting events. Our analysis show that pigs were not the staple food for humans, since the ^{13}C values measured in the human bones clearly indicate marine values. It is suggested that pigs were food for occasional feasting since their terrestrial content (^{13}C measured to c. –21) then would not be visible in the human bones (Table 1.1). The clear terrestrial indications in the pig bones further suggest that they belonged to a wild population and were not fed on scraps from the human main food-sources, or were only fed food of terrestrial origin. This pig population was probably introduced as a domesticated variant by the earlier farmers of the Neolithic FBC groups. It is evident that the coastal location of the large PWC sites, and their general size due to phosphate analyses of at least about 100 000 m^2 (Österholm & Österholm 1997; Österholm 1989, 40–51), suggesting that they might have functioned as gathering places, easy to access for visiting relatives from other parts of the island during remembrances of deceased relatives, and feasting associated with such gatherings.

The outline of a burial place and development of a ritual space

The cemetery itself was, according to the ^{14}C dates established at this site, up to 200 years later, and all burials were found in pits excavated through the layer of animal bones and potsherds. This means that the site selected for burials was previously used as a fishing/hunting/feasting ground. The ^{14}C dates indicate two phases of burial activities at the site:

- Phase 1, c. 2900–2600 cal BC, with burials dug down into the old cultural horizon.
- Phase 2, c. 2600–2300 cal BC (Fig. 1.4).

During the latter phase, ritual areas were established among earlier burials. New graves were also placed in connection with the earlier burials and it is likely that the earlier graves could have been disturbed or probably consciously manipulated by the ritual activities. This is indicated by the high volume of fragmentary human remains found in the dark soil areas (Fig. 1.5).

Detailed studies of the cemetery have revealed there are clusters of graves; a suggestion also made by Fahlander (2003). The ^{14}C dates provides an interesting new basis for interpretation. Fahlander (2010) proposes a chronological trend at Ajvide running north to south, but instead, we suggest indicated by dated samples and evaluation of earlier dates, that each cluster includes Early and Late mid-Neolithic dates. This implies that the entire site was used as a cemetery from around 2900 cal BC. The authors suggest that the clusters indicate that family groups used different parts of the site which is supported by the fact that the clusters include people of different dates, age and sex.

In one sense, the graves and ritual practises were collectively, tied to certain areas/units but, in another sense they were individualised. The latter is observed in variations of the grave goods and manipulation/treatment of the deceased individual. One example of this special manipulation of bones is displayed by the “package graves”. These are generally graves with bones of two or more individuals wrapped together, indicating that the individuals were probably skeletonised or in a state of decay prior

to the burial. Four such graves are reported from Ajvide and at least one other has been reported from the PWC site at Västerbjers (Norderäng 2007). There were also scattered human bones found in the cultural layers which comprise at least another 20–25 individuals (Kristiansson 2000; Lundén 2012) or about 25% of all individuals at Ajvide. The amount of scattered human bones is probably much higher, since the complete bone material has not been studied in detail and additional human fragments are likely to be contained within the faunal assemblage.

Eight empty graves, or so called cenotaphs, were identified as dark coloured [soil] pits of the same shape as burial pits. They included grave goods, such as fishhooks and bone points (Burenhult 2002, 33). These features are found in close proximity to ordinary burial pits with skeletons. They could at one stage have included human remains which were subsequently removed and became scattered or they could relate to absent people lost on hunting expeditions or at sea. This remains an open question but another possibility that should be considered is that the pits never functioned as graves but instead sacrificial pits, or pits for burying ritual debris or ritual storage pits.

Table 1.1 All 58 radiocarbon dates carried out at the Ajvide site

Lab. No.	*BP*	*Error*	*13C*	*BP corr.*	*Find context*	*Affiliation*	*Material*	*Cal. BC 2σ*	*Ref.*
Ua-3251	5020	60	−18.8	4920	Cultural layer	Area B	Bone seal	3934–3538	4
Ua-41790	4429	36	−21.9	4429	Cultural layer	North of Area D	Mandible pig	3329–2923	5
Ua-10431	4505	70	−17.34	4405	Cultural layer	Grave 29 filling	Bone seal	3337–2902	4
Ua-10739	4355	85	−26.6	4355	Cultural layer	Under transgression	Hazelnut	3344–2778	1
Ua-3541	4465	65	−16.59	4365	Cultural layer	Area D, upper	Bone seal	3329–2884	1
Ua-17278	4460	75	−16	4360	Cultural layer	Grave 41 filling	Bone seal	3336–2877	4
Ua-10428	4450	65	−15.7	4350	Cultural layer	Grave 2 filling	Teeth seal	3327–2877	1
Ua-10738	4302	85	−20.97	4302	Cultural layer	Under transgression	Bone pig	3327–2634	1
Ua-3542	4425	65	−16.4	4325	Cultural layer	Area D, upper	Bone seal	3321–2706	1
Ua-12042	4385	65	−16.25	4315	Grave 13	Area D, upper	Bone human	3312–2699	1
Ua-17279	4285	80	−21	4285	Grave 41	Area D, middle	Bone pig	3311–2622	4
Ua-17277	4360	80	−15	4290	Grave 41	Area D, middle	Bone human	3312–2626	1
Ua-3540	4350	85	−16.3	4280	Grave 28	Area D, middle E	Bone human	3312–2584	1
Ua-41789	4373	36	−22.2	4373	Cultural layer	North of Area D	Mandible pig	3091–2908	5
Ua-41787	4305	34	−22.4	4305	Cultural layer	Area D, upper	Mandible pig	3015–2882	5
Ua-41788	4253	34	−22.7	4253	Cultural layer	Area D, upper	Mandible pig	2920–2704	5
Ua-17280	4210	65	−21	4210	Grave 41	Area D, middle	Bone hedgehog	2920–2581	4
Ua-41122	4305	35	−14.9	4235	Grave 82	North of Area D	Bone human	2915–2696	5
Ua-41120	4302	36	−15.5	4232	Grave 52B	Area D, middle	Bone human	2914–2680	5
Ua-10430	4195	70	−22.1	4195	Grave 29	Area D, middle	Bone pig	2913–2579	4
Ua-34357	4275	40	−13.9	4205	Grave 79A	North of Area D	Bone human	2902–2667	1
Ua-41121	4276	36	−15.5	4206	Grave 59	Area D, lower	Bone human	2901–2671	5
Ua-10416	4235	75	−16.5	4165	Grave 2	Area D, upper	Bone human	2906–2500	1
Ua-3538	4235	65	−15.3	4165	Grave 29	Area D, middle	Bone human	2896–2577	1
Ua-12040	4230	60	−16.07	4160	Grave 1	Area D, upper	Bone human	2889–2580	1
Ua-34350	4220	40	−14.3	4150	Human bone fragm	Area D, lower	Bone human	2880–2620	1
Ua-12043	4215	75	−15.42	4145	Grave 36	Area D, middle E	Bone human	2897–2496	1
Ua-13381	4200	80	−15.88	4130	Grave 53	Area D, lower	Bone human	2892–2491	1
LuS-8132	4200	50	?	4130	Human bone fragm	North, Trench 5	Bone human	2878–2577	2
LuS-8133	4190	50	?	4090	Cultural layer	Area B	Bone seal	2872–2491	2
Ua-34358	4155	40	−16.5	4085	Grave 79B	North of Area D	Bone human	2865–2491	1
Ua-10429	4150	65	−21.4	4150	Grave 2	Area D, upper	Bone hedgehog	2892–2506	4
Ua-12041	4135	60	−16.01	4065	Grave 6	Area D, upper	Bone human	2866–2471	1
Ua-34354	4125	40	−16.6	4055	Grave 57	Area D, lower	Bone human	2852–2474	1
LuS-8134	4110	50	?	4040	Human bone fragm	North, Trench 5	Bone human	2857–2467	2
Ua-3539	4095	65	−14.96	4025	Grave 30	Area D, middle	Bone human	2864–2347	1
Ua-34355	4085	40	−18.2	4015	Grave 62	Area D, lower	Bone human	2832–2461	1
Ua-34359	4070	40	−17.1	4000	Grave 84		Bone human	2831–2356	1
Wk-21095	4027	41	−20.1	4027	Grave 60	Area D, lower	Bone pig	2836–2467	1
Ua-3791	4015	95	−16.2	3945	Grave 19	Area D, middle	Bone human	2855–2145	1

Lab. No.	*BP*	*Error*	*13C*	*BP corr.*	*Find context*	*Affiliation*	*Material*	*Cal. BC 2σ*	*Ref.*
Ua-41792	4023	32	−22.2	4023	Ritual activity area	Dark area 1	Mandible pig	2621–2471	5
Ua-34356	4005	40	−18.3	3935	Grave 73	Area D, lower	Bone human	2566–2297	1
Ua-35781	4005	45	?	3935	Grave 83 (1958)	Area C	Bone human	2570–2292	3
Ua-41108	3992	33	−21.8	3992	Grave 1 (deposit)	Area D, upper	Bone pig	2617–2461	5
Ua-41107	3992	32	−21	3992	Grave 7 (deposit)	Area D, upper	Teeth cheep/goat	2580–2462	5
Ua-41786	3960	34	−21.2	3960	Ritual activity area	Dark area 2	Mandible pig	2573–2346	5
LuS-8677	3870	50	?	3800	Ritual activity area	Dark area 4	Bone human	2458–2050	3
LuS-8676	3810	50	?	3810	Ritual activity area	Dark area 4	Bone pig	2461–2064	3
Ua-41791	3765	36	−23.8	3765	Ritual activity area	Dark area 1	Mandible pig	2292–2041	5
St-11206	3615	70	?	3615	Cultural layer	Area D. lower	Charcoal	2196–1771	1
Ua-34351	3085	40	−22.7	3085	Cultural layer	Area D. lower	Teeth cheep/goat	1437–1261	1
St-9033	3065	70	?	3065	Cultural layer	Area D. lower	Charcoal	1493–1125	1
St-9247	2835	215	?	2835	Cultural layer	Area D, lower	Charcoal	1525–417	1
St-9053	4270	170	?	4270	Cultural layer	Area C	Charcoal	3486–2464	1
Ua-17276	4730	75	−16.3	4630	Cultural layer	Grave 19 filling	Bone seal	3633–3104	4
Ua-34353	4500	45	−17.7	4400	Cultural layer	?	Bone seal	3325–2907	1
Ua-34352	3940	40	−19.4	3840	Cultural layer	?	Bone seal	2461–2155	1
St-10788	4140	130	?	4140	Cultural layer	Area D, upper	Charcoal?	3084–2341	1

References: 1) Norderäng 2008; 2) Norderäng 2009; 3) Norderäng 2010; 4) Rundkvist *et al.* 2004; 5) Wallin n.d. (laboratory reports). Calibrated with OxCal v. 4.1.

Another feature worthy of comment is the large amount of post holes of different types (Burenhult 2002, 32). These could possibly indicate houses which would suggest that the site was a proper settlement but generally there are no clear formations of these post holes, and they occur also among the graves. When analysing the smaller units with graves of various temporal status the post holes have become easier to understand. The posts probably mark old graves and it is also likely that the areas which we suggest as family clusters of graves were fenced in (Fig. 1.4). The division of the cemetery into several fenced-off "family" clusters possibly explains the missing bones in some of the graves, since old ancestral bones probably played a role in subsequent morturary ritual practices.

Age and sex distribution at Ajvide indicates a slight overrepresentation of males and probably an under-representation of children, who probably had a higher mortality rate (Welinder 2009, 197). It is not known if all people who died were buried at the site. So far 89 buried individuals have been found (in 85 burial pits) and it is estimated that the scattered bones add at least another 20–25 individuals. There are probably still addtional burials and scattered human bones to be found here, since only about 25% of the area of the site has been excavated. The grave goods appear to be evenly distributed among the buried individuals which suggest that a buried individual may have been buried with any kind of artefact, with the exception being harpoons/hunting tools which slightly dominated among the male graves. Another interesting thing is that fishhooks are frequently found among woman and individuals

under the age of 20. The majority of the buried individuals had only a few artefact types as grave goods and a few individuals (among them children) were buried with many artefacts (Andersson 2012). This could suggest that a social hierarchy was present in a tribal society with hereditary rights.

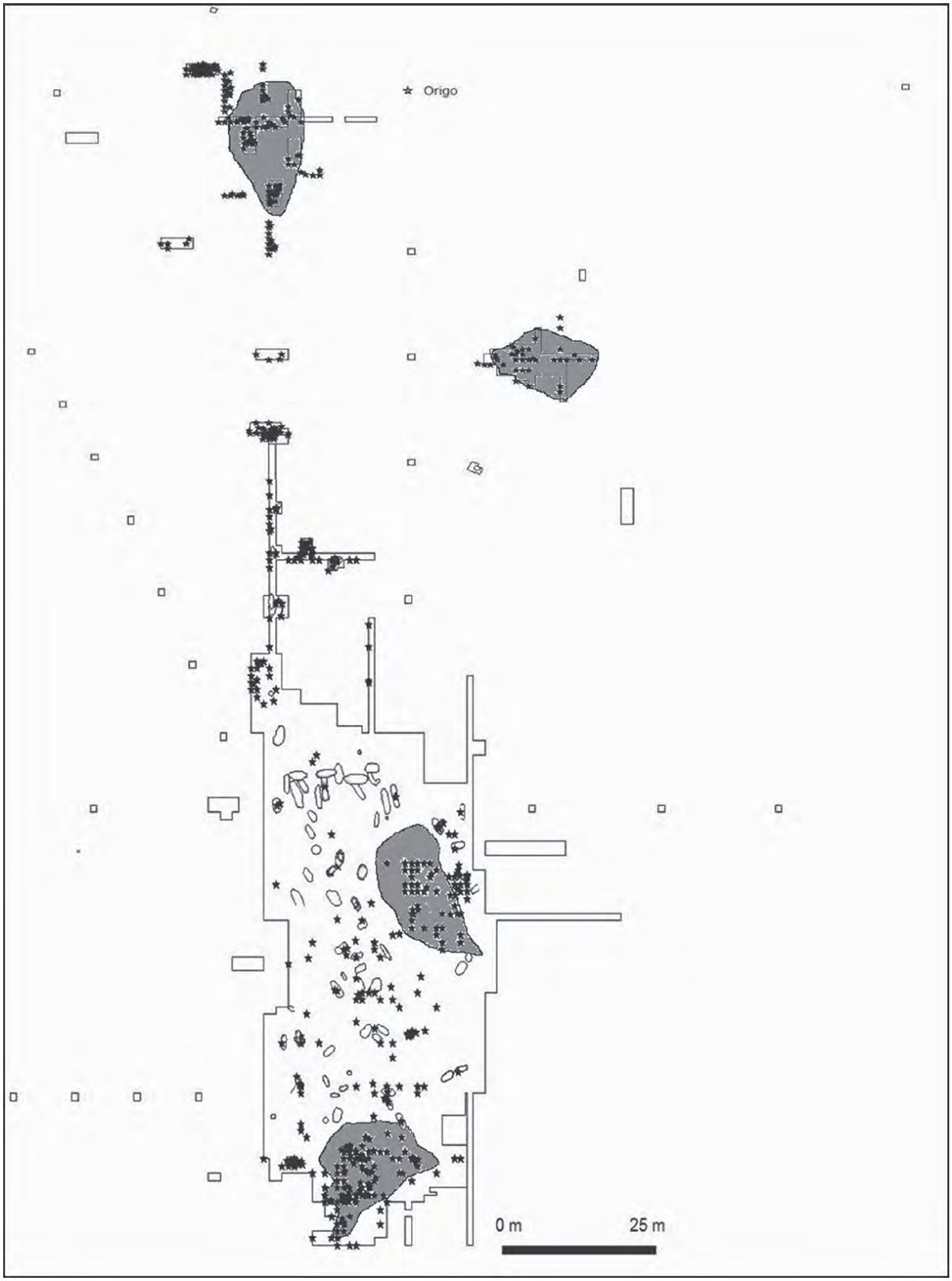

Figure 1.5 Plan drawing of the excavated main area with stray finds of human bone fragments found in the cultural layers marked by stars and dark soil areas (1–4) indicated as gray spots

The spaces in-between - "Dark Areas" in the Final Ritual Phase

Four areas of very dark fatty soil have been recorded at Ajvide. Three of them have been dated to c. 2500 cal BC and are thereby contemporary with the Phase 2 burials. Common to all the dark areas is that the amount of finds is considerably higher than in the surrounding cultural layers (Norderäng 2008). They are approximately the same size (about 150–200 m^2) and all contain quite high amounts of scattered human bone fragments (Fig. 1.5). The southernmost dark area is dated by two ^{14}C radiocarbon samples, one from pig bone and the other from human bone. The pig indicates a Phase 2 date of c. 2500 cal BC and the human fragment dates to c. 2800 cal BC or to a Phase 1 burial. We interpreted this as an earlier burial sequence which was destroyed (perhaps consciously) during subsequent burial-ritual activity, represented by the dark soil areas. The dark soil Area 1 (Fig. 1.6) exposed high quantities of seal bones as well as seal fat in the soil (Österholm 1997), whilst within the dark soil area 2, located to the south, contained high quantities of pig bones (Bergstedt 2012).

Figure 1.6 Eastern edge of dark soil Area 1 during excavation. The edge of the feature is demarcated by post-holes that indicate a wall or enclosure (photo: Inger Österholm)

The authors suggest that the dark soil areas might be associated with the special treatment/manipulation of animals and animal parts. The soil is equally dark in the sometimes up to 2.5 m long burial pits and this might derive from the body fat of the buried individual, which suggests that, for example, seal grease or pig fat might have been poured over the body during the burial act (Figs 1.9 & 1.10). Various treatments/manipulation of dead seals and pigs probably has ritual associations. Such activities are described in historical times on the island and the place for such butchering of the seals

was actually called the “seal altar” (Säve 1983; Österholm 2002).

Individuals, materiality and ritual practice

The majority of burials at the site include grave goods or demostrate some treatment/manipulation of the body. As noted above, the burial ritual activity among the PWC is generally similar albeit with some local variation. However, some individuals can be singled-out since they show special grave goods or special treatment of the body. The morturary practices among the PWC are interpreted as demonstrating both collective and individual ritual practices. Here, we highlight four individual burials and describe in the following paragraphs.

Grave 2 at Ajvide is known as the “hedgehog” woman who was around 20 years of age at the time of death (Fig. 1.7). Her name relates to a pile of hedgehog quills together with bones from the dorsal fin of pike-perch placed above her head. In addition she had five mandibles of hedgehog and two epiphyses of cormorant within the area of the sternum which suggests that she wore these items as an amulet. She had also three amber beads in the shape of double-edged axes, which are considered exotic items (Burenhult 1997b, 44, 58–63; Molnar 2008, 278). Isotope analysis indicates that she consumed largely a marine diet. The hedgehog (European hedgehog: *Erinaceus europaeus)* is not native to Gotland Island and was probably introduced by PWC people c. 3000 cal BC. Recent aDNA analyses on hedgehog bones have shown that they probably derive from the Swedish mainland (Fraser *et al*. 2011). This animal has been considered a magical and mythical creature on account of its spiny appearance, its ability to defend itself by curling up to a spiky ball and it hibernates over the winter season. The quills above the head of the hedgehog have been interpreted as a hat/headdress of hedgehog skin; however, this is difficult to ascertain (Burenhult 1999, 325).

Figure 1.7 Grave 2 at Ajvide. The “Hedgehog” Woman (photo: Göran Burenhult)

The presence of hedgehog and pike-perch bones suggest they were regarded as symbols of

protection and it is possible that this individual held a special position in the society akin to a shaman and/or that the hedgehog acted as her totem. Some species of animal may have been regarded as persons or members of society and a special unity appears to have existed between humans and their totem animals, they were also possibly associated with certain places where the ancestors were considred to be present (Ingold 1986, 2000; Fowler 2004). Mortuary activities associated with animal remains can project ideological aspects of death. This can, according to Fowler (2004, 151) create identity of place and landscape or reflect social hierarchies. The head is considered taboo in many traditional societies and should be protected. The protection of the head is, for example, very notable in traditional Polyneisan societies (Goldman 1970, 520), but also reflected by red ochre found in prehistoric graves in Northern Europe (Larsson 1988). A row of seal-tooth pendants across her shinbones is interpreted as a dress with seal tooth decoration. Teeth decoration and pendants have, for example, also been interpreted by Larsson (2006) as symbolic signs of a protective cult and not just merely as decoration.

Located in the same cluster as the "Hedgehog Woman" was Grave 6 which contained a well-preserved skeleton of a male that was aged around 20 years (Fig. 1.8). The individual's head was missing but his teeth were placed in the correct anatomic position in the location of the missing head. Among the grave goods were a number of pig bones, several of them large tusks. At least four pigs were represented in the assemblage (Burenhult 1997, 46, 72–75; Molnar 2008, 279). A missing head is not unusual (accounting for around 10 per cent of the burials) and possibly associated with a cult of the ancestors. Ethnohistorical accounts from traditional societies demonstrate the display or use of heads and other body parts of the ancestors in ritual activities (Thomas 2003, 340).

As indicated above, pigs might have been used for feasting and this could certainly have been the case with Grave 60. A well-preserved skeleton of a child approximately seven years of age was buried with 32 pig jaws which were placed around the child's feet. Altogether the remains of 36 pigs were found in the grave (Burenhult 1997, 114–115, 162–164; Molnar 2008, 283). This is a considerable number of pigs and it is likely that this child was a special person and its burial required extensive feasting (Hayden 1996). A large number of pig bones could also symbolise a totem animal. This large investment could also indicate the presence of hereditary social hierarchies both within and outside the community.

Figure 1.8 Grave 6 at Ajvide. The skeleton of a male apporoximately 20 years of age. The cranium is missing, but an almost complete set of teeth (enlarged) were found in the area of the missing cranium (photo: Göran Burenhult)

Finally, we turn our attention to Grave 62 which is special in a number of ways. It contained a woman approximately 25–30 years of age having a relatively tall physical stature but was the only individual found at Ajvide that show signs of anemia indicated on the bones (Molnar 2008, 283). She

was accompanyied by 38 flutes/beads, made of bird bone, as well as hedgehog jaws and quills (Burenhult 2002, 116–117). In addition, the burial had been given two finely worked bone artifacts, one bone comb and a "butterfly" shaped pendant, the latter probably of the head plate of sturgeon. Pig jaws and tusks were also represented in the grave as well as elk antler and a clay figurine in the shape of a water bird (Burenhult 2002, 116, 167; Mannermaa 2008, 211, 214). This is considered to be a very rich grave incorporating several exotic items such as elk antler and sturgeon. The bird bone beads/flutes which have been studied by Mannermaa (2008) have been identified as waterbirds such as the common crane, great cormorant, whooper swan and guillemot. Mannermaa (2008, 210) questions the previous interpretation of the bones as flutes/birdcalls (Burenhult 2002, 116) and is of the opinion that the majority are beads for decorative purpose or wind chimes, but that the smaller tabular bones could comprise bird decoys or some form of musical instrument. It has also been suggested that this artefact type is an imitation of Dentalium-shell from the Atlantic Ocean (Fahlander 2003, 114) but this interpretation is refuted by Mannermaa (2008, 210). The presence of worked and unworked waterbird bones in the graves at Ajvide together with shell and amber is suggested by Mannermaa to be associated with the island/coastal life. Moreover, there may be a relationship with waterfowl and the journey of the soul to the underworld (Mannermaa 2008, 216–217).

Figure 1.9 Grave 60 at Ajvide. A 7-year-old child buried with head oriented to the west and with 36 pig jaws by the feet and side. Beads of fowl-bones and a fragmented amber bead were also among the finds (photo: Göran Burenhult)

Concluding remarks

It is evident that ritual, as inferred from mortuary practices, played an important social role on the island of Gotland during the Neolithic. The position of Gotland in the middle of the Baltic Sea also enables external influences and interactions to be traced, since certain objects of flint, amber and slate etc. have been traded with people from outside the island. The Neolithic on Gotland covers a period of approximately 2000 years embrasing various cultural expressions and different lifestyles. The Neolithisation of Gotland appears to have been a complex process and included the Early Neolithic Funnel Beaker Culture (FBC) who introduced domesticated animals (cattle, goats, pigs and sheep) from across the sea Pottery was also introduced to the island at around the same time. Changing grave rituals, including the construction and use of stone burial-ritual monuments tied to a farming economy, and a mid-Neolithic phase of approximately 800 years dominated by the Sub-Neolithic Pitted Ware Culture that favoured the hunting lifestyle. A typical Neolithic lifestyle began to be established at the end of the Late Neolithic and stabilised during the Early Bronze Age around 1700 cal BC. This is seen in the establishment of ritual sites including monument building in the form of stone-cists and subseqent covering of the stone cists by large stone cairns during the Middle Bronze Age.

In this chapter, we have considered some of the ritual behaviour expressed during the Neolithic in Baltic Scandinavia. Evidence for the ritual behaviour from the Early Neolithic is fragmentary, represented by the burial activity in and around a single dolmen. Late Neolithic stone cists have never been a focus for intense research, but only compiled as a general database (Luthander 1988; Sjöstrand 2012; Wallin 2010a). Instead, research has focused on the well-preserved PWC cemeteries. These unique later prehistoric entities include well-preserved inhumations, artefacts and faunal remains. The data for these sites makes them ideal for studies of the decoding of ritual processes within this type of burial activity. Ritual and the constraints it holds can be traced on local and regional levels, including the relationship between humans and various animals (Welinder 2009, 193). The authors have suggested that this can be seen on Gotland when identifying social boundaries and groups when considering the quantities of pig and seal bones found at different sites (Wallin & Martinsson-Wallin 1992; Martinsson-Wallin 2008). These social relations are possibly reflected in single graves where some individuals are found buried with extensive numbers of pig jaws while others include hundreds of seal teeth that were applied to clothing or had hedgehog spines and jaws placed within the graves. These associations may reflect tribe, clan or family totems (Levi-Strauss 1969, 60). An important factor involved in ritual is the strengthening of social identity (Cohen 1985, 50). On a regional level among the PWC on Gotland, age appears to be the most important distinction and is possibly expressed by general burial-ritual practices. Gender is another key aspect of social identity which appears to have been locally among the different groups on Gotland (Wallin 2010b).

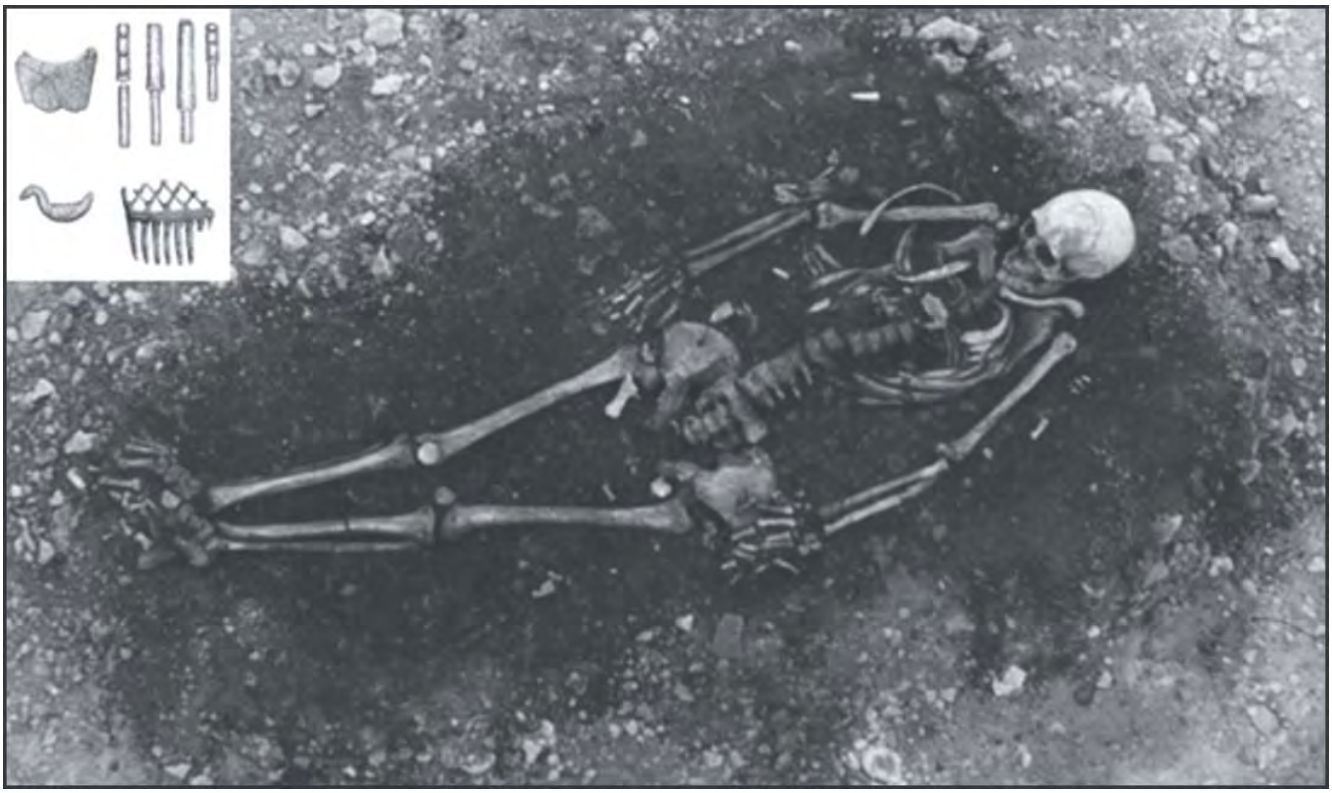

Figure 1.10 Grave 62 at Ajvide. A woman approximately 30 years old buried with bird bone grave goods (enlarged) (photo: Göran Burenhult)

This study has discussed the possible social structure represented at the Ajvide cemetery, and to ask why and how was the site organised? In order to discuss such social structures at this well-excavated site the available data was re-analysed. The results do not support the interpretation (Welinder 2009, 193) that the cemetery was founded around a dark soil area used for the butchering seals. In stead we can see that dark areas developed in a later stage as a ritual activity tied to the burial acts. In addition the view that the northern part of the cemetery is supposed to be the earliest, followed by later graves continuing to the south of the site (Fahlander 2010) is also contested by the new results. There appears to be no such succession at the site, since early and younger dates appear both in the northern and southern portions of the cemetery. Instead, clusters of graves of mixed ages may have been identified suggesting that various family groups controlled different areas of the cemetery for a long period of time. The radiocarbon dates from the "dark soil spots" suggest they are the latest features at the sites and probably of ritual significance. The new radiocarbon sequence suggests a place under constant change, first as a place for fishing, seal hunting and possibly seasonal feasting at c. 3200–2900 cal BC, later becoming a cemetery and finally being used for extended rituals. The burial practises were more flexible and complex than being simply inhumations. The burial ritual also included the removal of body parts (Fahlander 2010), for example the head (10% of the cases), as well as double and triple burials, bone assembleges, empty graves and thousands of human bone fragments found in the cultural horizon may indicate above ground exposure prior to burial. Interpreting the Neolithic rituals of Gotland is a research area which to date has only scratched the surface, and much more needs to be done.

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2

Monuments from the doorstep: exploring the temporal, spatial and social relationship between chambered cairns and settlements during the Orcadian Neolithic

Christopher J. Kerns

The inter-relationship between chambered cairns and settlement sites is poorly represented in past studies of the Orcadian Neolithic. This study aims to elucidate the temporal and spatial inter-relationship through the application of Bayesian modelling of radiocarbon dates and Geographic Information System (GIS)-based viewshed analysis. The spatial pattern created through the location of settlements and chambered cairns within the landscape along with detailed chronologies can provide insight into the ways places and monuments were perceived and experienced in the past. Such patterns and chronologies are also the product of the underlying ontology of Neolithic society. This combined examination of both the spatial and the temporal interrelationship challenges previous interpretations of the role chambered cairns played within society as well as the motivations behind their locations within the landscape. Most importantly this paper uses quantitative data as evidence to support these new interpretations of the role and placement of chambered cairns and settlements within the Orcadian Neolithic.

Situated off the north-east coast of Scotland, the Orkney Islands have some of the best preserved Neolithic sites of Britain (Fig. 2.1). As well as the quality of preservation, Orkney also has a long history of archaeological investigation spanning the past 200 years. The chambered cairns are traditionally believed to have been built as tombs (Barber 2000, 185). Some of the earliest, and perhaps most influential, studies relating to the landscape setting of chambered cairns focused on the island of Rousay and linked the monuments to modern agricultural land while suggesting that each monument

was linked to an individual Neolithic settlement (Childe 1942; Davidson 1979). Later landscape studies extended to islands beyond Rousay and concluded that chambered cairns were situated within the full range of altitudinal zones possible, near to locations with stone suitable for construction, on or near arable land, in locations with good visibility, with an easy approach, and possibly in places that ensured intervisibility with other cairns (Fraser 1983). These studies justifiably incorporate little to no settlement evidence because until relatively recently the evidence for settlements was slim. As late as 1985, only four settlements were known, Knap of Howar, Skara Brae, Links of Noltland and Rinyo (Ritchie 1990). These studies led to the interpretation that chambered cairns served individual communities and possibly functioned as territorial markers during the Early Neolithic, while serving simultaneously as a tomb for larger social groups as well as a symbol of power and individual authority during the Late Neolithic (Renfrew 1973; 1979; Sharples 1985). The mortuary evidence from the chambered cairns was incorporated into interpretations wherein an initial egalitarian segmentary society was progressively centralised resulting in an increase in hierarchy leading up to potentially totemic chiefdoms during the course of the Neolithic (Hedges 1983; 1984; Renfrew 1979).

More recently, a number of studies have built on the research of Fraser (1983) by utilising GIS technology as well as embracing a number of hypotheses associated with landscape archaeology to investigate the landscape-setting of the Orcadian chambered cairns (Cummings & Pannett 2005; Noble 2006; Phillips 2002; 2004; Sturt 2005; Woodman 2000). These studies have focused on the visibility of the sea rather than exploring the spatial connections with settlements and other landscape features. As a consequence, these studies interpret the monuments within a framework of maritime connections and the symbolically potent power of the sea. In contrast to the studies that have focused specifically on the setting of chambered cairns and their relationship to the sea, concurrent studies attempted to address the interrelationship between settlements and monuments by focusing on the architectural, cultural material and depositional practices found in both settlements and chambered cairns, while also relating them to metaphorical-symbolic connections to specific places in the landscape (Hodder 1982; 1984; 1994; Jones 1999; Parker-Pearson & Richards 1994a; 1994b; Richards 1990; 1996b; 2005a; 2005b). This led to the dominant interpretation of the interrelationship between settlements and chambered cairns as chambered cairns being considered to be symbolic and literal ‘houses for the dead’ (Hunter 2000, 117–122; Parker-Pearson & Richards 1994b, 42; Richards 1988, 54; Ritchie 1990, 52). Such an interpretation is based on a number of formal similarities between domestic architecture and the architecture of the chambered cairns, as well as the presence of human remains found in the latter (Hodder 1994, 75).

Many of the landscape studies produced to date have assumed only minor changes in the physical coastline and topography since the Neolithic, despite coastal erosion having led to the discovery of a number of important new sites over the past 30 years. Recent work has signalled the potential for the discovery of now-submerged Neolithic sites, in addition to demonstrating that significant changes in coastline-configuration and physical topography have taken place since the prehistoric era (Wickham-Jones *et al*. 2009; 2010; 2011).

The purpose here is to elucidate the social, spatial and temporal interrelationship between Neolithic chambered cairns and settlements on the Orkneys through the application of contrasting methods of analysis. First, an examination of the chronological evidence using Bayesian analysis is employed to determine the sequence and temporal interrelationship between sites across the islands.

Second, using GIS-based viewshed analysis, a critical examination of the spatial qualities of the site types assesses the role of chambered cairns in society specifically questioning the argument that chambered cairns act as 'houses for the dead' or were preferentially located with views from or to the sea (Cummings & Pannett 2005; Sturt 2005; Hunter 2000, 117–122; Noble 2006; Parker-Pearson & Richards 1994b, 42; Phillips 2002; 2004; Richards 1988, 54; Ritchie 1990, 52; Woodman 2000). The chief aim is to clarify why chambered cairns and settlements were built in specific locations in relation to each other and how they express social and cosmological principles of ordering space.

Chronology of the Orcadian Neolithic

A fundamental aspect of archaeological inquiry is the establishment of chronological context. One of the challenges of investigating chronological sequences is that the notion of an archaeological type, such as chambered tomb, can suppress the acknowledgement of variability while emphasising archaeological ideals (Jones & Richards 2000, 103). Further, interest in long-term processes as expressed by archaeological types, often relegates the particularity of individual contexts as temporally remote and timeless, while also tending to universalise human experience (Bayliss *et al*. 2007, 2). Therefore, a clear chronological sequence, which takes into account recent fieldwork, is necessary to temporally contextualise the analysis of the spatial relationship between chambered cairns and settlement sites. Dating the Orcadian Neolithic employing absolute dating methods is fraught with a number of challenges. It is, therefore, important when discussing the Neolithic sequence, or comparing spatially separate sites, to employ radiocarbon dates both critically and with caution.

Radiocarbon dating provides probable dates for a singular event, the point in time when an organism died; it does not date contexts. The first challenge in interpreting radiocarbon dates in general is directly related to the process of sample selection for radiocarbon dating. Radiocarbon assays for Neolithic chambered cairns in Orkney are often done on recovered human remains. The assumption that human remains represent primary deposits in these monuments is problematic, as there is an uncertain relationship between the construction of chambered cairns and the deposition of human remains. Concurrently, radiocarbon assays for Neolithic settlements are often done on material recovered from midden deposits. Though material recovered from midden deposits clearly dates human activity, there is an uncertain relationship between the deposit of midden material, the construction of buildings and the use of particular pottery styles. Additionally, the variation in the concentration of atmospheric radiocarbon which creates kinks in the calibration curve has previously been considered as complicating the interpretation of radiocarbon dates (Renfrew 2000, 12). The calibration plateau that Ashmore (1998, 142) identified as causing difficulties in obtaining precise radiocarbon dates for the Neolithic in Orkney is not an insurmountable challenge. Both Bayliss *et al*. (2007, 12) and Schulting *et al*. (2010, 44) (*contra* Ashmore 2004, 130) have argued that more precision is possible with sufficient numbers of AMS determinations, targeted sampling strategy from contexts and the addition of Bayesian modelling.

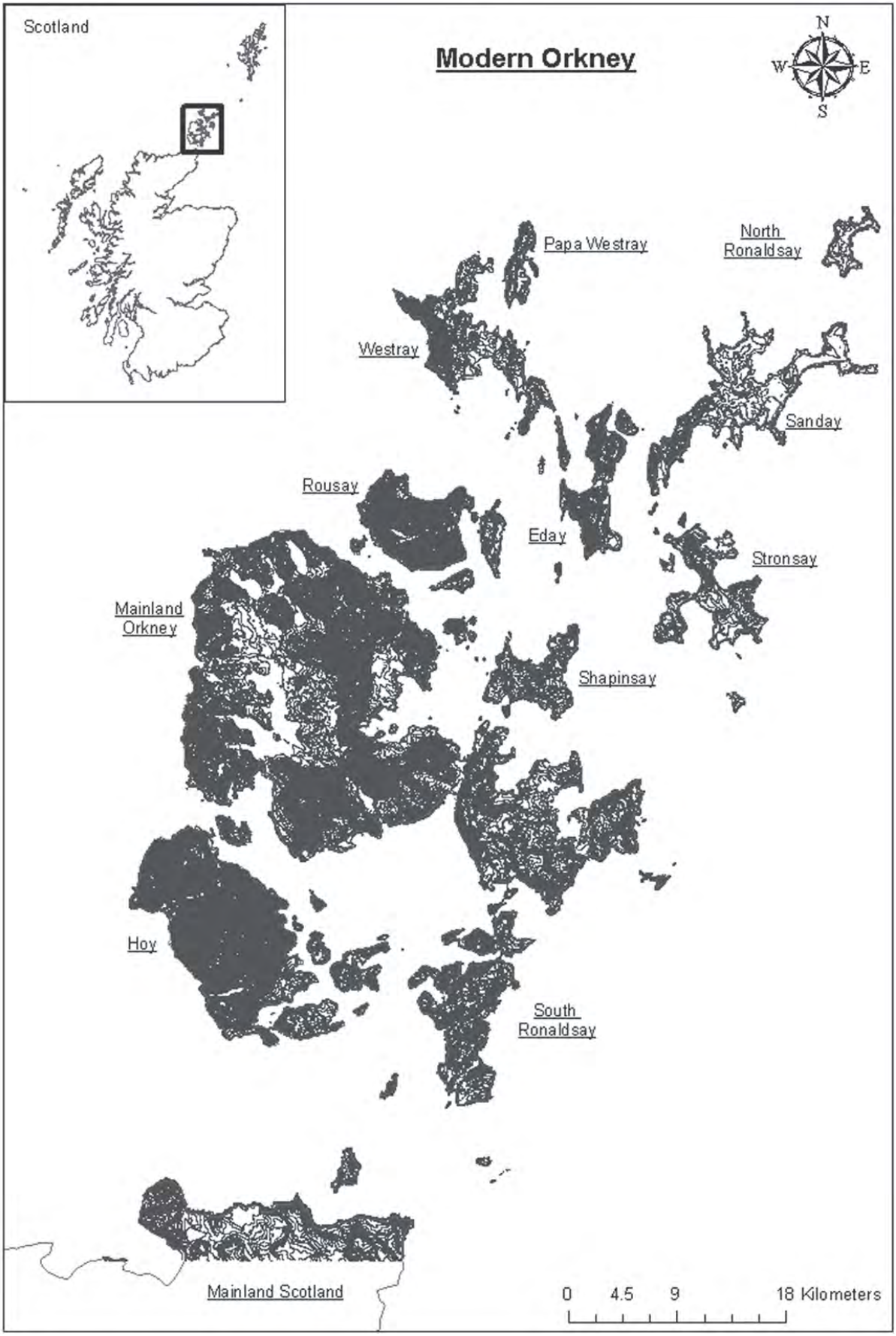

Figure 2.1 Modern topographic map of Orkney

The present understanding of the chronology of the Orcadian Neolithic based on radiocarbon

dates is generally derived from what Whittle *et al*. (2011, 18–19) refer to as "informal" interpretations of calibrated radiocarbon. Informal interpretation of radiocarbon dates refers to a process of visually inspecting tables or graphs of calibrated dates, to make an interpretation of the timing or duration of events. This can produce "fuzzy" chronologies in which sites, monuments and social actions are thought to exist over extended timescales while the detail and nuance of temporal relationships are entirely lost (Whittle *et al*. 2008, 65; 2011, 19).

Bayesian modelling

The Bayesian approach is a formal mathematical method which is both probabilistic and contextual. In terms of archaeology, the Bayesian approach combines knowledge such as context, stratigraphy, sample character and standardised likelihoods for radiocarbon dates into a probabilistic model which can produce finer chronologies (Whittle *et al*. 2008, 66). The application of Bayesian statistical modelling produces finer chronologies because it constrains the inherent imprecision of standardised radiocarbon likelihoods by incorporating additional information on the probability of events taking place at certain point in time. Bayesian models, like models of any kind, are constructed for the particular purpose of creating a simplified view of data in a meaningful way from a sample (Bayliss *et al*. 2007, 6). A number of assumptions about the data must be made in the process of creating a simplified view or model. In Bayesian modelling of chronology the first assumption is that chronology is broken down into events and any continuous process must be described in terms of events (Bronk Ramsey 2009, 338). Within Bayesian modelling it is possible to aggregate site-based shorter chronologies in order to examine longer-term, broad chronologies for regions or periods for which the data is incomplete. The consequence of aggregate models is an overarching model that accounts for the fragmented and biased nature of the archaeological record. Yet, data solely attributed to long-term timescales cannot be used to examine short-term processes (Whittle *et al* 2011, 4). The results of Bayesian modelling are known as posterior density estimates. By convention, the posterior density estimates are written in *italics*, while on figures they are shown in black and the original probability distributions – from which they are derived – are shown in outline (Bayliss *et al*. 2007, 5; Whittle *et al*. 2011, 16).

Orcadian Neolithic typologies and stratigraphic sequence

The broad archaeological typologies for both chambered cairns and pottery styles in Orkney have been established for a significant period of time. Two distinct pottery traditions have been recognised from the Neolithic in Orkney – Unstan Ware and Grooved Ware (MacSween 1992, 259). Based primarily on evidence from the settlement site of Pool, Unstan Ware is thought to precede Grooved Ware (Hunter & MacSween 1991, 913). As pottery is found in both chambered cairns and settlements it features in any discussion of Orcadian chronology (MacSween 1992, 259). Chambered cairns have been similarly categorised based on chamber architecture with two major styles having been identified – the Orkney-Cromarty group and the Maes Howe group (Henshall 1963). Based on the deposition of ceramic types and architectural evidence from two sites – Knowe of Lairo and Howe of Howe – Orkney-Cromarty cairns have been thought to precede Maes Howe cairns (Ballin-Smith 1994; Henshall 1990, 108; MacSween 1992, 269; Richards 1988, 43). At Knowe of Lairo an Orkney-Cromarty cairn was altered into a Maes Howe chambered cairn, possibly during construction. At Howe of Howe a Maes Howe

style chambered cairn was constructed on top of an earlier settlement.

A preliminary examination of the stratigraphic sequences at a number of chambered cairns suggests that different depositional practices took place in a relatively consistent chronological order. The earliest stratigraphic deposit found in a number of Orkney Cromarty chambered cairns typically comprises clay, earth and ash floors of some thickness incorporating small un-burnt fragments of human remains and occasionally cremated remains (Richards 1992, 72). This particular feature has been interpreted by Richards (1992, 72) as "a continual process of covering the burnt remains of the dead and recreating the pathway" along the long axis of the chambered cairn linking together the different stalls. The earliest deposit at Orkney-Cromarty cairns may also be represented at the Maes Howe style chambered cairn of Quanterness where the initial deposit was a thin layer of burnt material, which in some places is likely to have been burnt *in situ*, and contained sparse disarticulated scatters of human bone (Henshall 1990, 103; Renfrew 1979, 53). The principal deposit of selected human remains found within Orkney-Cromarty chambered cairns typically comprises crouched or "sitting" articulated inhumations, often incomplete (Henshall 1990, 106; Richards 1988, 46). Once again this depositional activity may also be represented at Quanterness in the form of cist and pit burials which contained crouched inhumations (Renfrew 1979, 52). Yet, the cist burials are not only found within the cairns, but also at settlements such as Barnhouse (Richards 1993, 163), as well as in total isolation (Hansom 2003, 13). Despite the appearance of a coherent stratigraphic sequence apparent from a preliminary examination of the stratigraphic sequence, the coherence may be no more than an illusion. An in depth analysis of the stratigraphy from published excavation reports indicates that bioturbation and past disturbance has rendered the association of any specific dateable material with a specific stratigraphic deposit unreliable (Barber 1997, 69; Henshall 1979, 77; Ritchie 2009, 13; Schulting *et al* 2010, 16–18 & 26).

Settlement architecture and organisation is generally divided into either Early or Late Neolithic. Two broad categories of evidence have been used to determine the settlement sequence in Neolithic Orkney – pottery typologies and architectural styles. Despite the problematic assumptions such a method of developing a chronology presents, it nonetheless allows for separate sites to be compared using similar criteria. Early Neolithic domestic buildings are identified through the presence of Unstan Ware. This has meant that early Neolithic architecture has been typified by the isolated single farmstead at Knap of Howar on Westray. However, Early Neolithic structures have been shown to be constructed from both stone and timber and vary in shape and size without a consistent architectural form (Downes and Richards 2000, 161–165; Thomas 2010, 134–135). The Late Neolithic can be divided into two separate phases through distinct changes in architecture and ceramic style. Initial Late Neolithic architecture can broadly be defined as being free-standing structures spatially organised around a central area as is evident at Barnhouse, Skara Brae and Rinyo (Richards 1998, 527; Jones & Richards 2005, 31). Initial Late Neolithic settlements appear to seamlessly transform architecturally through a series of refurbishments and rebuilding episodes (Jones & Richards 2005, 27). Through these changes the individual structures within settlements conform to a trend through time where the whole settlement changes from being organised concentrically to a more conglomerate form (Richards 1998, 527–528). At the settlements of Skara Brae and Rinyo the number of houses decreases while houses also become physically joined together (Richards 1998, 528). At these sites the architecture of the house changes in the sense that the furniture is no longer integral to the house but instead projects from

the walls of these often larger structures (Richards 1998, 528). Late Neolithic settlement sites are dominated by Grooved Ware. Ceramics within Late Neolithic settlements also go through design changes with Grooved Ware changing from incised to applied decoration during the course of the Late Neolithic (Hunter & MacSween 1991, 913).

Chronological models for Orkney

Radiocarbon dating and Bayesian modelling can further ensure that typological sequences are the product of actual chronological relationships, rather than the product of social differences in form and practice between separate sites. However, in order for radiocarbon dates to effectively contribute to the development of accurate chronological sequences, complex multiphase Bayesian models need to be constructed which take into account complicated relationships between stratigraphy, architecture and materials associated with dated contexts. Building multiphase models, such as the ones used here for Neolithic Orkney, requires a choice in how the different phases are related. In the case of overlapping phases or groups, each group can be treated entirely independently (Bronk Ramsey 2009a, 348). However, Whittle *et al* (2008, 68) have shown that projects that select samples based around building a model provide more precise chronologies than those, such as the ones here, which model existing radiocarbon determinations.

There are over 200 published radiocarbon dates for Neolithic Orkney, originating from over 20 different sites. Ten settlement sites have sufficient radiocarbon dates to build useful individual site models using Bayesian modelling while four chambered cairns can be modelled in a similar fashion. The remaining sites have limited radiocarbon dates which prevent the creation of informative Bayesian models. On-going archaeological investigation in Orkney means that there are a number of unpublished radiocarbon dates for both chambered cairns and settlement sites. The currently unpublished radiocarbon dates have the potential to alter or strengthen the models presented here. The model for the chambered cairns incorporates over 100 radiocarbon determinations from a total of eight different sites, while the settlement model incorporates over 100 radiocarbon determinations from a total of 13 different sites. The modelled chronology for both chambered cairns and settlements uses a combination of architecture, stratigraphy, deposition practices, artefacts and individual site models to define the different phases which structure the models.

Chambered cairn Bayesian model

For the modelled chronology of the chambered cairns, Orkney-Cromarty cairns and Maes Howe style cairns were modelled separately. Three overlapping phases were identified and incorporated into the model for the chronology of Orkney-Cromarty chambered cairns while one primary phase was identified and incorporated into the model for Maes Howe chambered cairns. Two additional phases of chambered cairn use were identified and modelled separately from the models for Orkney-Cromarty cairns and Maes Howe cairns. All of the models were combined to create an overall chronological model for chambered cairns in Orkney (Fig. 2.2). Although this model is useful for understanding the place of chambered cairns within Orcadian society, future research needs to place the Orcadian sequence within the broader context of chambered cairns across Britain and Western Europe.

The start of the Orkney-Cromarty chambered cairn sequence is modelled to *3596–3419 cal BC* (68.2% probability) or *3783–3844 cal BC* (95.4% probability). However, the modelled start date for

the use of Orkney-Cromarty chambered cairns for interment of human remains is *3498–3391 cal BC* (68.2% probability) or *3552–3375 cal BC* (95.4% probability). This phase of interment is modelled to have spanned 27–*142 years* (68.2% probability) or 0–*236 years* (95.2% probability) with the probability peaking near *100 years*. The initial phase of human interment at Orkney-Cromarty chambered cairns is modelled to have ended between *3362–3300 cal BC* (68.2% probability) or *3482–3178 cal BC* (95.2% probability). This phase of activity at the chambered cairns incorporates data from three separate sites, two of which when individually modelled suggest that the initial interments at each site were singular events or accumulated over a very short period of time. When this information is taken into account it can be suggested that the Orkney-Cromarty cairns were initially used for interment and possibly constructed over the period of a century with different sites being used at separate times across Orkney.

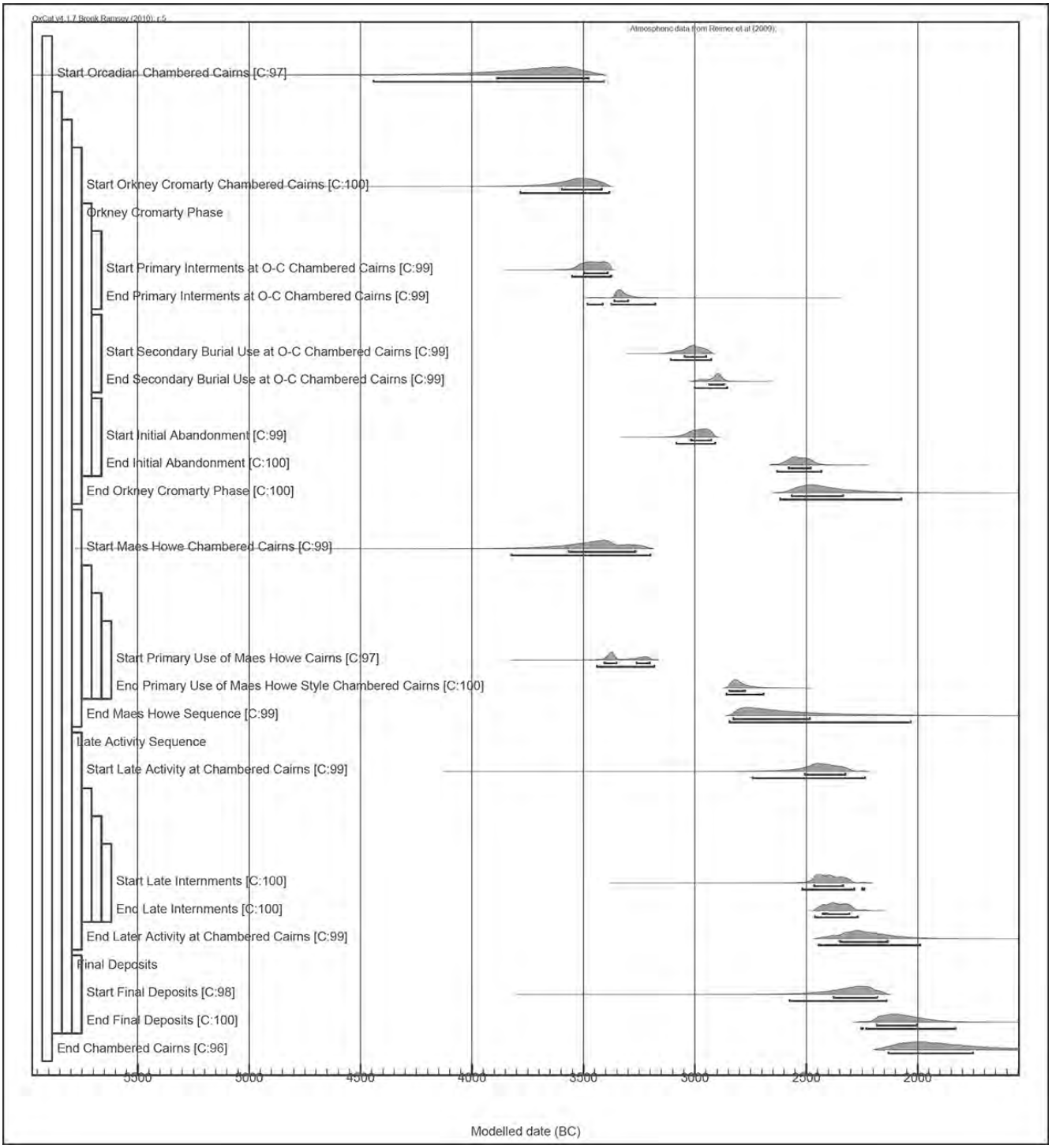
OxCal v4.1.7 Bronk Ramsey (2010); r:5
Atmospheric data from Reimer et al (2009);
Start Orcadian Chambered Cairns [C:97]
Start Orkney Cromarty Chambered Cairns [C:100]
Orkney Cromarty Phase
Start Primary Interments at O-C Chambered Cairns [C:99]
End Primary Interments at O-C Chambered Cairns [C:99]
Start Secondary Burial Use at O-C Chambered Cairns [C:99]
End Secondary Burial Use at O-C Chambered Cairns [C:99]
Start Initial Abandonment [C:99]
End Initial Abandonment [C:100]
End Orkney Cromarty Phase [C:100]
Start Maes Howe Chambered Cairns [C:99]
Start Primary Use of Maes Howe Cairns [C:97]
End Primary Use of Maes Howe Style Chambered Cairns [C:100]
End Maes Howe Sequence [C:99]
Late Activity Sequence
Start Late Activity at Chambered Cairns [C:99]
Start Late Internments [C:100]
End Late Internments [C:100]
End Later Activity at Chambered Cairns [C:99]
Final Deposits
Start Final Deposits [C:98]
End Final Deposits [C:100]
End Chambered Cairns [C:96]
5500
5000
4500
4000
3500
3000
2500
2000
Modelled date (BC)

Figure 2.2 Model for Orcadian chambered cairns. Each phase was considered as potentially overlapping the others. The phases were identified through a combination of typological, stratigraphic and associated material evidence, as well as through individual site modelling. The agreement indices for both individual determinations and the overall model are good

Table 2.1 Results table from the Chambered Cairn Chronology Model. Model built and calibrated using OxCal v.4.1.7 Bronk Ramsey (2010): r5 Atmospheric data from Reimer et al.

Name	*Unmodelled (BC/AD)*						*Modelled (BC/AD)*						*Indices Amodel 95.6 Aoverall 79.6*		
	from	*to*	*%*	*from*	*to*	*%*	*from*	*to*	*%*	*from*	*to*	*%*	*Acomb*	*A*	*C*
Start Orcadian Chambered Cairns							−3888	−3477	68.2	−4443	−3410	95.4			97.1
Start Orkney Cromarty Chambered Cairns							−3596	−3419	68.2	−3783	−3384	95.4			99.7
Orkney Cromarty Phase															
Start Primary Interments at O-C Chambered Cairns							−3498	−3391	68.2	−3552	−3375	95.4			99.2
1st Internments at Chambered Cairns															
GrA-25636	−3628	−3379	68.2	−3634	−3373	95.3	−3427	−3374	68.2	−3518	−3367	95.4		105.7	99.7
GrA-25638	−3520	−3376	68.2	−3630	−3368	95.4	−3432	−3370	68.2	−3509	−3363	95.4		109.7	99.8
ut-1660	−3520	−3373	68.2	−3632	−3362	95.4	−3435	−3366	68.2	−3502	−3358	95.4		108.8	99.8
ut-1658	−3520	−3373	68.2	−3632	−3362	95.4	−3435	−3366	68.2	−3502	−3358	95.4		108.8	99.8
GrA-25637	−3502	−3363	68.2	−3620	−3351	95.4	−3472	−3357	68.2	−3496	−3352	95.4		96	99.8
ut-1659	−3500	−3137	68.2	−3520	−3105	95.4	−3486	−3338	68.2	−3498	−3329	95.4		128.1	99.8
Secondary Burial															
UT/GU-?	−3501	−3106	68.3	−3629	−3026	95.4	−3476	−3332	68.1	−3508	−3296	95.4		120.1	99.7
UB-6421	−3347	−3114	68.2	−3358	−3097	95.4	−3366	−3326	68.2	−3494	−3263	95.4		76	99.6
Span Primary O-C Interment Phase							27	142	68.2	0	236	95.4			99.3
End Primary Interments at O-C Chambered Cairns							−3362	−3300	68.2	−3482	−3178	95.4			98.7

Name	*Unmodelled (BC/AD)*						*Modelled (BC/AD)*						*Indices Amodel 95.6 Aoverall 79.6*		
	from	*to*	*%*	*from*	*to*	*%*	*from*	*to*	*%*	*from*	*to*	*%*	*Acomb*	*A*	*C*
Start Secondary Burial Use at O-C Chambered Cairns							−3046	−2949	68.2	−3109	−2928	95.4			98.9
Secondary Burial Use at O-C Chambered Cairns															
Knowe of Rowiegar															
UB-6420	−3318	−2944	68.2	−3331	−2925	95.4	−3027	−2923	68.2	−3063	−2918	95.4		69.7	99.8
Holm of Papa Westray North															
GU-2068	−3321	−2930	68.2	−3338	−2917	95.4	−2996	−2921	68.2	−3060	−2907	95.4		97.1	99.9
GU-2067	−3097	−2916	68.2	−3331	−2899	95.4	−2996	−2920	68.2	−3052	−2902	95.4		123.8	99.9
Point of Cott															
GU-2936	−3093	−2917	68.2	−3331	−2896	95.3	−2996	−2920	68.2	−3048	−2901	95.4		125.2	99.9
GU-2940	−3023	−2910	68.2	−3308	−2887	95.4	−2998	−2918	68.2	−3032	−2897	95.4		118.8	99.9
ut-1661	−3010	−2881	68.2	−3089	−2760	95.5	−3006	−2899	68.1	−3017	−2890	95.4		97.6	99.8
GU-2934	−3009	−2671	68.2	−3097	−2574	95.4	−3004	−2901	68.2	−3028	−2877	95.4		93.7	99.8
Isbister															
Foundation Deposits	−3089	−2919	68.2	−3323	−2900	95.4	−2994	−2921	68.2	−3045	−2904	95.4		120.3	99.9
Stall 5, Sample A, Combined	−3092	−2930	68.2	−3325	−2910	95.5	−2997	−2922	68.2	−3051	−2910	95.4		111.8	99.9
Side-Cell 3, Sample A, Combined	−3082	−2916	68.2	−3312	−2893	95.4	−2994	−2920	68.2	−3038	−2901	95.4		119.5	99.9
Stall 4 Combined	−3308	−2923	68.2	−3335	−2911	95.4	−2997	−2921	68.2	−3057	−2907	95.4		108.7	99.9
Side-Cell 3, Sample B, Combined	−3010	−2877	68.2	−3081	−2711	95.4	−3007	−2894	68.2	−3016	−2887	95.4		85.1	99.7
Behind Hornwork at Isbister															
Deer Bone Combined	−2912	−2882	68.2	−3011	−2761	95.4	−3007	−2887	68.2	−3011	−2883	95.4		60.8	99.5
Span of Secondary Burial Use at O-C Chambered Cairns							0	111	68.2	0	189	95.4			99.2

Name	*Unmodelled (BC/AD)*						*Modelled (BC/AD)*						*Indices Amodel 95.6 Aoverall 79.6*		
	from	*to*	*%*	*from*	*to*	*%*	*from*	*to*	*%*	*from*	*to*	*%*	*Acomb*	*A*	*C*
End Secondary Burial Use at O-C Chambered Cairns							−2937	−2868	68.2	−3001	−2855	95.4			99.1
Start Initial Abandonment							−3018	−2927	68.2	−3084	−2910	95.4			99.2
Initial Abandonment of Chambered Cairns															
Point of Cott															
ut-1663	−3310	−2898	68.2	−3346	−2881	95.4	−2979	−2888	68.2	−3058	−2697	95.5		106.3	99.7
Knowe of Ramsay															
Q 1123	−3081	−2894	68.2	−3328	−2872	95.4	−2964	−2888	68.2	−3031	−2761	95.4		115.3	99.7
Holm of Papa Westray North															
OxA-17780	−3010	−2899	68.2	−3023	−2892	95.4	−2943	−2896	68.2	−3005	−2891	95.4		114.2	99.9
Knowe of Rowiegar															
Q 1221	−3013	−2883	68.2	−3262	−2701	95.5	−2965	−2877	68.2	−3023	−2701	95.3		114.2	99.9
Knowe of Ramsay															
Q 1224	−3012	−2880	68.2	−3097	−2698	95.3	−2967	−2874	68.2	−3023	−2698	95.4		113.5	99.8
Holm of Papa Westray North															
OxA-16472	−2912	−2779	68.2	−2927	−2696	95.3	−2912	−2780	68.2	−2926	−2696	95.4		100.5	99.8
Knowe of Yarso															
Q 1225	−2908	−2696	68.3	−2999	−2601	95.4	−2907	−2697	68.3	−2922	−2626	95.4		101.8	99.8
Holm of Papa Westray North															
OxA-17779	−2875	−2681	68.2	−2881	−2633	95.4	−2875	−2694	68.1	−2881	−2634	95.4		99.7	99.9
Holm of Papa Westray North															
OxA-16473	−2861	−2623	68.2	−2872	−2580	95.4	−2861	−2625	68.2	−2871	−2583	95.4		100.8	99.9
OxA-16474	−2856	−2585	68.1	−2872	−2573	95.4	−2857	−2601	68.3	−2871	−2575	95.4		101.3	99.9
OxA-17782	−2852	−2585	68.1	−2866	−2574	95.4	−2854	−2601	68.1	−2866	−2576	95.4		100.6	99.9
Point of Cott															
GU-2941	−2857	−2581	68.2	−2875	−2500	95.4	−2857	−2588	68.2	−2872	−2574	95.4		102.5	99.9
Holm of Papa Westray North															
OxA-17781	−2834	−2503	68.2	−2856	−2493	95.4	−2835	−2573	68.2	−2857	−2501	95.4		100.9	99.8

Name	*Unmodelled (BC/AD)*						*Modelled (BC/AD)*						*Indices Amodel 95.6 Aoverall 79.6*		
	from	*to*	*%*	*from*	*to*	*%*	*from*	*to*	*%*	*from*	*to*	*%*	*Acomb*	*A*	*C*
GU-2069	−2849	−2492	68.1	−2867	−2473	95.4	−2853	−2567	68.2	−2871	−2502	95.4		100.3	99.9
OxA-16471	−2622	−2491	68.2	−2840	−2471	95.4	−2834	−2550	68.2	−2852	−2491	95.4		88	99.8
Point of Cott															
ut-1665	−2623	−2481	68.2	−2857	−2467	95.4	−2836	−2528	68.1	−2859	−2490	95.5		87.5	99.8
Knowe of Ramsay															
Q 1222	−2621	−2466	68.2	−2856	−2346	95.5	−2835	−2520	68.2	−2860	−2479	95.4		84.1	99.8
Knowe of Rowiegar															
Q 1227	−2620	−2465	68.2	−2854	−2342	95.3	−2834	−2520	68.2	−2859	−2477	95.3		83.6	99.7
Isbister															
Infilling Sample Combined	−2618	−2480	68.2	−2849	−2466	95.3	−2833	−2526	68.2	−2854	−2487	95.3		82.1	99.7
Span Initial Abandonment							345	472	68.2	292	537	95.4			99.5
End Initial Abandonment							−2580	−2481	68.2	−2631	−2433	95.4			99.7
Span Orkney Cromarty Cairns							848	997	68.2	787	1075	95.4			99.4
End Orkney Cromarty Phase							−2566	−2337	68.2	−2617	−2075	95.4			99.6
Start Maes Howe Chambered Cairns							−3565	−3267	68.2	−3825	−3199	95.4			98.7
Start Primary Use of Maes Howe Cairns							−3407	−3203	68.2	−3440	−3183	95.4			96.7
Primary Maes Howe Chambered Cairn Use															
Stratum 1, on bedrock															
SUERC-24012 (GU-18429)	−3497	−3352	68.2	−3517	−3137	95.4	−3375	−3136	68.1	−3383	−3109	95.4		51.1	97.7
Q 1294	−3508	−3113	68.2	−3627	−3034	95.4	−3365	−3101	68.2	−3381	−3027	95.4		94.7	99.2
SUERC-24000 (GU-18420)	−3321	−3018	68.2	−3332	−2929	95.3	−3283	−3012	68.2	−3327	−2928	95.4		101.1	99.6
Stratum 2, Pit A															
SUERC-24002 (GU-18422)	−3341	−3111	68.2	−3355	−3096	95.4	−3236	−3101	68.2	−3351	−3092	95.4		101.2	99.4

Name	*Unmodelled (BC/AD)*						*Modelled (BC/AD)*						*Indices Amodel 95.6 Aoverall 79.6*		
	from	*to*	*%*	*from*	*to*	*%*	*from*	*to*	*%*	*from*	*to*	*%*	*Acomb*	*A*	*C*
SUERC-24001 (GU-18421)	−2915	−2883	68.2	−3011	−2779	95.4	−2914	−2885	68.2	−3011	−2871	95.4		102.2	99.9
Pit A	−3001	−2886	68.2	−3013	−2880	95.4	−2999	−2886	68.2	−3012	−2881	95.4		99.4	99.7
Stratum 3, main bone spread															
SUERC-23998 (GU-18418)	−3493	−3139	68.2	−3500	−3111	95.4	−3369	−3128	68.2	−3376	−3104	95.4		75	98.2
SUERC-23999 (GU-18419)	−3366	−3123	68.2	−3486	−3103	95.4	−3358	−3120	68.2	−3368	−3100	95.3		97.9	99.3
Q 1363	−3492	−3031	68.2	−3621	−2922	95.4	−3276	−3023	68.2	−3365	−2928	95.4		106.8	99.4
SUERC-24009 (GU-18426)	−3309	−2941	68.1	−3328	−2924	95.4	−3263	−2938	68.2	−3322	−2922	95.4		102.9	99.7
Q 1451	−2878	−2496	68.2	−3079	−2234	95.4	−2925	−2790	68.2	−3262	−2714	95.4		87.5	99.8
Stratum 4, main bone spread															
SUERC-24003 (GU-18423)	−3486	−3127	68.2	−3496	−3104	95.4	−3364	−3125	68.2	−3374	−3102	95.4		89.5	98.9
SUERC-24011 (GU-18428)	−3341	−3111	68.2	−3355	−3096	95.4	−3236	−3101	68.2	−3351	−3092	95.4		101.2	99.3
SUERC-24013 (GU-18430)	−3336	−3105	68.1	−3355	−3091	95.4	−3242	−3097	68.2	−3347	−3035	95.4		99.4	99.2
SUERC-23993 (GU-18416)	−3333	−3101	68.2	−3349	−3031	95.4	−3273	−3094	68.2	−3340	−3030	95.4		97.4	99.2
SUERC-24017 (GU-18431)	−3331	−3096	68.1	−3342	−3029	95.4	−3286	−3037	68.2	−3336	−3027	95.4		95.9	99.2
SUERC-24010 (GU-18427)	−3096	−2933	68.2	−3323	−2917	95.5	−3095	−2936	68.2	−3311	−2916	95.3		103	99.8
SUERC-23997 (GU-18417)	−3086	−2927	68.2	−3264	−2910	95.4	−3085	−2928	68.2	−3261	−2911	95.4		101.4	99.8
SUERC-24007 (GU-18424)	−2912	−2873	68.2	−2923	−2703	95.4	−2905	−2878	68.2	−2924	−2778	95.4		115.4	99.9
SUERC-24008 (GU-18425)	−2848	−2577	68.1	−2866	−2497	95.5	−2856	−2820	68.2	−2877	−2730	95.4		90.2	99.9
Stratum 5, final deposits															
SUERC-24020 (GU-18434)	−3021	−2922	68.2	−3091	−2909	95.4	−3021	−2922	68.2	−3091	−2909	95.4		100.3	99.8
SUERC-24021 (GU-18435)	−3327	−3031	68.2	−3340	−3022	95.4	−3280	−3028	68.3	−3334	−3020	95.4		95.5	99.2
SUERC-24018 (GU-18432)	−3013	−2917	68.2	−3090	−2901	95.4	−3013	−2918	68.2	−3089	−2901	95.4		100	99.8
SUERC-24019 (GU-18433)	−3491	−3137	68.3	−3499	−3108	95.5	−3368	−3127	68.2	−3376	−3103	95.4		80.4	98.8
Pit C Primary Burial	−2854	−2623	68.2	−2866	−2578	95.4	−2860	−2819	68.2	−2877	−2728	95.4		99.2	99.9

Name	*Unmodelled (BC/AD)*						*Modelled (BC/AD)*						*Indices Amodel 95.6 Aoverall 79.6*		
	from	*to*	*%*	*from*	*to*	*%*	*from*	*to*	*%*	*from*	*to*	*%*	*Acomb*	*A*	*C*
Quoyness															
SRR 753	−2925	−2760	68.2	−3021	−2679	95.4	−2926	−2864	68.2	−3022	−2771	95.4		118.2	99.8
SRR 752	−2887	−2680	68.1	−2899	−2626	95.4	−2894	−2835	68.2	−2908	−2759	95.4		102	99.8
Span of Primary Maes Howe Internments							357	584	68.2	331	661	95.4			96.7
End Primary Use of Maes Howe Style Chambered Cairns							−2845	−2777	68.2	−2858	−2692	95.4			99.6
Span Maes Howe Style Chambered Cairns							377	629	68.2	347	717	95.4			96.5
End Maes Howe Sequence							−2828	−2486	68.2	−2846	−2032	95.4			99.4
Late Activity Sequence															
Start Late Activity at Chambered Cairns							−2508	−2326	68.2	−2742	−2238	95.4			98.6
Start Late Internments							−2466	−2336	68.2	−2518	−2241	95.4			99.6
Late Internments															
Stall 5, Sample B, Combined	−2456	−2211	68.2	−2465	−2203	95.4	−2455	−2323	68.2	−2466	−2289	95.4		103.3	99.7
Pit C Quanterness	−2458	−2308	68.2	−2473	−2208	95.4	−2453	−2334	68.2	−2466	−2291	95.4		110.9	99.7
Span Later Internments							0	14	68.2	0	52	95.4			100
End Late Internments							−2427	−2308	68.2	−2461	−2271	95.4			99.8
Q 1482	−2577	−2348	68.2	−2839	−2210	95.4	−2389	−2284	68.2	−2443	−2210	95.4		62.4	99.9
Q 1481	−2292	−2042	68.2	−2458	−1980	95.4	−2352	−2193	68.2	−2443	−2127	95.4		89.1	99.8
Span Later Activity							0	155	68.2	0	313	95.4			99.6
End Later Activity at Chambered Cairns							−2350	−2135	68.2	−2445	−1990	95.4			99.2
Final Deposits															

Name	*Unmodelled (BC/AD)*						*Modelled (BC/AD)*						*Indices Amodel 95.6 Aoverall 79.6*		
	from	*to*	*%*	*from*	*to*	*%*	*from*	*to*	*%*	*from*	*to*	*%*	*Acomb*	*A*	*C*
Start Final Deposits							−2378	−2183	68.2	−2575	−2141	95.4			97.9
Final Deposits															
Isbister															
IntCal09															
Marine09															
LocalMarine	48.5	91.5	68.2	27.5	112.5	95.4	48.5	91.5	68.2	27	113	95.4		99.5	99.9
Mixed	76.5	77.5	68.2	76.5	77.5	95.4	76.5	77.5	68.2	76.5	77.5	95.4		100	100
UB-6552	−2176	−2039	68.2	−2260	−1978	95.4	−2203	−2096	68.2	−2266	−2031	95.4		97.4	99.7
IntCal09															
Marine09															
LocalMarine	48.5	91.5	68.2	27.5	112.5	95.4	48.5	92	68.2	27	113	95.4		99.4	99.9
Mixed	59.5	60.5	68.2	59.5	60.5	95.4	59.5	60.5	68.2	59.5	60.5	95.4		100	100
UB-6553	−2348	−2206	68.2	−2447	−2152	95.4	−2294	−2150	68.2	−2366	−2133	95.4		91.6	99.7
IntCal09															
Point of Cott															
ut-1664	−2466	−2210	68.3	−2570	−2061	95.4	−2282	−2140	68.2	−2429	−2060	95.4		83.8	99.7
GU-2942	−2141	−1950	68.2	−2285	−1882	95.4	−2208	−2076	68.2	−2283	−1984	95.4		89.1	99.8
GU-2945	−2136	−1783	68.3	−2281	−1693	95.5	−2228	−2072	68.2	−2293	−1946	95.4		74.6	99.7
Span Final Deposits							0	217	68.2	0	389	95.4			99.3
End Final Deposits							−2184	−2003	68.2	−2254	−1832	95.4			99.5
Span Chambered Cairns							1329	1657	68.2	1231	1977	95.4			99.7
End Chambered Cairns							−2131	−1753	68.2	...	−1230	95.4			96.4

The second phase of human interment at Orkney-Cromarty chambered cairns, as identified by Ashmore (2009, 59–64) at Holm of Papa Westray North and Point of Cott, but applied here to all Orkney-Cromarty chambered cairns, has a tightly modelled start date of *3046–2949 cal BC* (68.2% probability) or *3109–2928 cal BC* (95.4% probability). This phase is modelled to span *0–111 years* (68.2% probability) or *0–189 years* (95.4% probability) and based on the shape of the probability distribution is likely to be the result of a singular or relatively simultaneous series of events recorded at a minimum of four chambered cairns. The phase has a tightly modelled end date of *2937–2868 cal BC* (68.2% probability) or *3001–2855 cal BC* (95.4% probability). Either overlapping this phase or beginning shortly after these secondary interments is the start of a phase labelled as initial abandonment which is dated entirely by faunal remains. Evidence from sites, such as Point of Cott (Barber 1997, 67), suggested that the faunal remains were not anthropogenic in origin and instead were a product of the monument falling into disrepair allowing for the remains to be incorporated into the monument naturally. This phase of faunal accumulation labelled initial abandonment has a modelled start date of 3018–*2927 cal BC* (68.2% probability) or *3084–2910 cal BC* (95.4% probability). The phase has a modelled span of *345–472 years* (68.2% probability) or 292–*537 years* (95.4% probability). The phase has a modelled end date of *2580–2481 cal BC* (68.2% probability) or

2631–2433 cal BC (95.2% probability). Including the faunal accumulation, which may not be anthropogenic in origin, the Orkney Cromarty chambered cairns are modelled to have a span of *848–997 years* (68.2% probability) or *787–1075 years* (95.4% probability). The modelled end date for the Orkney Cromarty cairns sequence is *2566–2337 cal BC* (68.2% probability) or *2617–2075 cal BC* (95.4% probability).

Table 2.2 Results table from the Settlement Chronology Model. Model built and calibrated using OxCal v.4.1.7 Bronk Ramsey (2010): r5 Atmospheric data from Reimer et al. (2009)

Name	*Unmodelled (BC/AD)*						*Modelled (BC/AD)*						*Indices Amodel 104.6 Aoverall 96.5*		
	from	*to*	*%*	*from*	*to*	*%*	*from*	*to*	*%*	*from*	*to*	*%*	*Acomb*	*A*	*C*
Start Orcadian Neolithic Settlement Sequence							−3611	−3429	68.2	−3794	−3385	95.4			97.7
Charcoal							−40	0	68.2	−127	0	95.4			99.4
	−1.24	−0.05	68.2	−3.17	−0.05	95.4									100
	0.015	3.015	68.2	0.015	3.015	95.4	1.131	1.926	68.2	0.231	2.031	95.4		100	95.4
Start Pre-Structure Activity Phase							−3516	−3401	68.2	−3595	−3373	95.4			98.8
Pre-Structure Activity Phase															
Knap of Howar (Birm 816)	−3776	−3350	68.2	−3960	−3030	95.4	−3464	−3373	68.2	−3545	−3350	95.4		129.4	99.5
Knap of Howar (SRR 348)	−3639	−3384	68.2	−3660	−3371	95.4	−3456	−3376	68.2	−3543	−3367	95.4		75	99.7
Knap of Howar (Birm 814)	−3643	−3343	68.2	−3749	−3028	95.4	−3464	−3373	68.2	−3536	−3350	95.4		134.4	99.5
Knap of Howar (OxA-17778)	−3516	−3374	68.2	−3622	−3368	95.4	−3463	−3373	68.2	−3516	−3368	95.4		105.5	99.6
Knap of Howar (OxA-16480)	−3500	−3361	68.2	−3622	−3345	95.4	−3480	−3367	68.2	−3507	−3361	95.4		94.2	99.4
Span Pre-structure Activity Phase							0	61	68.2	0	153	95.4			99.3
End Pre-Structure Activity Phase							−3444	−3351	68.2	−3508	−3288	95.4			98.3
Start Early Structure Primary Phase							−3387	−3142	68.1	−3426	−3132	95.4			96
Early Structure Primary Phase															
Wideford Hill (SUERC-4862)	−3506	−3365	68.2	−3621	−3354	95.4	−3375	−3136	68.2	−3390	−3121	95.5		21.8	98.3
Knap of Howar (OxA-16475)	−3498	−3345	68.2	−3518	−3121	95.4	−3367	−3135	68.2	−3379	−3120	95.4		48	98.6
Wideford Hill (SUERC-4859)	−3494	−3129	68.1	−3500	−3104	95.4	−3361	−3132	68.2	−3375	−3117	95.4		91.2	98.9
Wideford Hill (SUERC-4861)	−3366	−3123	68.2	−3486	−3103	95.4	−3351	−3129	68.2	−3368	−3115	95.4		111.7	99.2
Knap of Howar (OxA-16479)	−3366	−3119	68.3	−3486	−3101	95.3	−3218	−3128	68.2	−3368	−3114	95.4		116.4	99.4

Name	*Unmodelled (BC/AD)*						*Modelled (BC/AD)*						*Indices Amodel 104.6 Aoverall 96.5*		
	from	*to*	*%*	*from*	*to*	*%*	*from*	*to*	*%*	*from*	*to*	*%*	*Acomb*	*A*	*C*
Stonehall (AA-51374)	−3366	−3118	68.3	−3486	−3100	95.4	−3218	−3127	68.2	−3368	−3113	95.3		117.4	99.3
Wideford Hill (SUERC-4869)	−3364	−3118	68.3	−3483	−3098	95.4	−3219	−3127	68.2	−3366	−3113	95.4		118	99.4
Knap of Howar (SRR 346)	−3361	−3105	68.2	−3501	−3012	95.4	−3221	−3127	68.2	−3363	−3113	95.4		124	99.3
Wideford Hill (SUERC-4863)	−3357	−3116	68.3	−3363	−3101	95.4	−3217	−3128	68.2	−3353	−3110	95.4		105.6	99.2
Wideford Hill (SUERC-4860)	−3353	−3115	68.1	−3361	−3100	95.4	−3220	−3127	68.2	−3358	−3114	95.3		115.1	99.3
Knap of Howar (OxA-16478)	−3343	−3108	68.2	−3361	−3091	95.4	−3221	−3127	68.2	−3352	−3113	95.4		109.2	99.2
Stonehall (AA-51370)	−3344	−3107	68.1	−3361	−3091	95.4	−3219	−3128	68.2	−3346	−3112	95.4		106.2	99.2
Stonehall (SUERC-5790)	−3336	−3105	68.1	−3355	−3091	95.4	−3221	−3128	68.2	−3347	−3114	95.4		102.5	99.1
Stonehall (AA-51384)	−3336	−3105	68.2	−3356	−3031	95.4	−3221	−3128	68.2	−3349	−3112	95.4		104.7	99
Wideford Hill (SUERC-4868)	−3335	−3103	68.2	−3352	−3035	95.4	−3220	−3129	68.2	−3340	−3113	95.4		104	99.1
Knap of Howar (OxA-16476)	−3327	−3028	68.2	−3343	−2944	95.4	−3226	−3126	68.2	−3336	−3112	95.4		76.3	98.7
Wideford Hill (SUERC-4867)	−3324	−3027	68.2	−3340	−2944	95.4	−3224	−3130	68.2	−3329	−3117	95.4		92	98.8
Wideford Hill (SUERC-4870)	−3322	−3025	68.2	−3337	−2936	95.4	−3228	−3123	68.2	−3334	−3111	95.4		62.5	98.5
Span Early Structure Primary Phase							0	94	68.2	0	278	95.4			97.5
End Early Structure Primary Phase							−3204	−3104	68.2	−3321	−3061	95.4			98.2
Start Early Structure Secondary Phase Phase							−3146	−3016	68.2	−3326	−2941	95.4			98.7
Early Structure Secondary Phase Phase															
Knap of Howar (SRR 344)	−3331	−3020	68.2	−3345	−2926	95.4	−3094	−2959	68.2	−3258	−2912	95.4		99.8	99.7
Knap of Howar (OxA-16481)	−3322	−3020	68.2	−3335	−2928	95.4	−3098	−2968	68.2	−3262	−2921	95.5		105.8	99.8
Knap of Howar (SRR 349)	−3317	−2923	68.2	−3339	−2911	95.4	−3090	−2962	68.2	−3261	−2906	95.4		117.1	99.8
Knap of Howar (OxA-16477)	−3263	−2931	68.2	−3328	−2918	95.3	−3092	−2965	68.2	−3109	−2921	95.4		118.8	99.8

Name	*Unmodelled (BC/AD)*						*Modelled (BC/AD)*						*Indices Amodel 104.6 Aoverall 96.5*		
	from	*to*	*%*	*from*	*to*	*%*	*from*	*to*	*%*	*from*	*to*	*%*	*Acomb*	*A*	*C*
Knap of Howar (SRR 345)	−3090	−2893	68.2	−3336	−2779	95.3	−3085	−2967	68.2	−3110	−2892	95.4		113.4	99.8
Knap of Howar (Birm 813)	−3078	−2679	68.2	−3324	−2576	95.4	−3086	−2960	68.2	−3261	−2856	95.4		93	99.8
Knap of Howar (Birm 815)	−3022	−2630	68.2	−3331	−2491	95.3	−3087	−2962	68.2	−3263	−2838	95.3		90.4	99.8
Span Early Structure Secondary Phase Phase							0	126	68.2	0	334	95.4			99.7
End Early Structure Secondary Phase Phase							−3043	−2893	68.2	−3091	−2748	95.4			98.7
Start Late Structure Phase 1							−3333	−3096	68.2	−3362	−3054	95.4			98.6
Late Structure Phase 1															
Barnhouse (OxA-3498)	−3508	−3113	68.2	−3627	−3034	95.4	−3300	−3087	68.2	−3319	−3032	95.4		68	99.2
Barnhouse (OxA-3499)	−3496	−3105	68.2	−3620	−3027	95.4	−3301	−3086	68.2	−3318	−3032	95.4		83.9	99.1
Barnhouse (OxA-2734)	−3353	−3104	68.2	−3497	−2941	95.4	−3306	−3083	68.2	−3317	−3031	95.4		100.1	99.2
Stonehall (AA-51371)	−3335	−3102	68.2	−3352	−3031	95.4	−3304	−3076	68.2	−3317	−3031	95.4		103.6	99.1
Stonehall (AA-51382)	−3333	−3098	68.3	−3350	−3028	95.4	−3304	−3075	68.2	−3317	−3028	95.4		106.7	99.1
Stonehall (AA-51387)	−3336	−3095	68.2	−3363	−2944	95.3	−3305	−3071	68.2	−3318	−3027	95.4		110	99.2
Stonehall (SUERC-5792)	−3331	−3096	68.1	−3342	−3029	95.4	−3306	−3085	68.2	−3321	−3029	95.5		102.6	99.2
Tofts Ness (GU-2210)	−3339	−3034	68.2	−3363	−2930	95.4	−3306	−3049	68.2	−3321	−3026	95.4		111.3	99.2
Stonehall (AA-51386)	−3334	−3091	68.2	−3352	−3019	95.4	−3306	−3050	68.2	−3320	−3028	95.4		108.4	99.2
Skara Brae (Birm 795)	−3351	−3016	68.2	−3516	−2888	95.5	−3305	−3050	68.2	−3321	−3024	95.4		118.6	99.2
Barnhouse (OxA-2735)	−3333	−3024	68.3	−3351	−2927	95.4	−3305	−3047	68.2	−3322	−3024	95.4		114.3	99.2
Pool (OxA-946)	−3333	−3024	68.3	−3351	−2927	95.4	−3305	−3047	68.2	−3322	−3024	95.4		114.3	99.2
Stonehall (AA-51383)	−3327	−3026	68.2	−3341	−2938	95.4	−3300	−3046	68.2	−3317	−3019	95.4		109.7	99.1
Pool (OxA-960)	−3331	−3019	68.2	−3343	−2926	95.4	−3302	−3052	68.1	−3323	−3022	95.4		114.1	99.2
Stonehall (AA-51375)	−3320	−2943	68.2	−3331	−2925	95.4	−3288	−3047	68.2	−3323	−3017	95.3		110.6	99.2

Name	*Unmodelled (BC/AD)*						*Modelled (BC/AD)*						*Indices Amodel 104.6 Aoverall 96.5*		
	from	*to*	*%*	*from*	*to*	*%*	*from*	*to*	*%*	*from*	*to*	*%*	*Acomb*	*A*	*C*
Skara Brae (Birm 637)	−3326	−2927	68.2	−3366	−2891	95.4	−3301	−3058	68.2	−3322	−3019	95.4		111.3	99.2
Skara Brae (Birm 638)	−3329	−2924	68.2	−3508	−2777	95.5	−3302	−3058	68.2	−3321	−3021	95.4		115.4	99.1
Tofts Ness (GU-2209)	−3322	−2929	68.2	−3339	−2916	95.4	−3301	−3051	68.2	−3324	−3017	95.4		109	99.2
Barnhouse (OxA-3500)	−3319	−2921	68.2	−3339	−2909	95.4	−3300	−3051	68.2	−3324	−3014	95.4		104.8	99.2
Barnhouse (OxA-2737)	−3308	−2911	68.3	−3336	−2899	95.4	−3298	−3049	68.2	−3325	−3002	95.4		90.5	99.2
Skara Brae (Birm 639)	−3321	−2908	68.3	−3366	−2876	95.4	−3302	−3053	68.2	−3323	−3013	95.4		103.6	99.1
Skara Brae (Birm 790)	−3335	−2882	68.3	−3498	−2583	95.4	−3301	−3059	68.2	−3322	−3016	95.4		115.8	99.1
Skara Brae (Birm 636)	−3329	−2876	68.2	−3366	−2626	95.4	−3302	−3053	68.2	−3323	−3011	95.4		103.8	99.2
Skara Brae (Birm 480)	−3263	−2761	68.2	−3339	−2638	95.3	−3299	−3051	68.2	−3324	−2991	95.4		71.8	99.2
Skara Brae (Birm 789)	−3309	−2697	68.2	−3344	−2621	95.4	−3300	−3051	68.2	−3324	−2999	95.4		81.8	99.2
Skara Brae Birm 791	−3090	−2699	68.2	−3329	−2586	95.4	−3299	−3050	68.2	−3324	−2986	95.3		54.8	99.2
Span Late Structure Phase 1							0	110	68.2	0	322	95.4			99
End Late Structure Phase 1							−3262	−3010	68.2	−3305	−2919	95.4			98
Start Late Structure Phase 2							−3031	−2936	68.2	−3096	−2917	95.4			95.3
Late Structure Phase 2															
Barnhouse (OxA-3765)	−3335	−3031	68.2	−3359	−2932	95.4	−2988	−2889	68.2	−3056	−2849	95.4		58.6	99
Barnhouse (OxA-3501)	−3334	−3017	68.1	−3347	−2924	95.4	−2978	−2908	68.2	−3047	−2891	95.4		73	99.3
Barnhouse (OxA-3766)	−3311	−2923	68.2	−3336	−2911	95.4	−2975	−2910	68.2	−3041	−2894	95.4		99	99.2
Crossiecrown (SUERC-4858)	−3091	−2931	68.2	−3322	−2911	95.3	−2981	−2891	68.2	−3044	−2847	95.4		109.6	99.2
Barnhouse (OxA-3764)	−3264	−2914	68.2	−3335	−2900	95.4	−2976	−2884	68.2	−3042	−2843	95.4		119.1	99.4
Stonehall (AA-51376)	−3086	−2926	68.2	−3313	−2906	95.4	−2980	−2891	68.2	−3036	−2846	95.4		111.7	99.1
Barnhouse (OxA-3763)	−3084	−2905	68.2	−3324	−2883	95.4	−2970	−2879	68.2	−3027	−2838	95.4		119.5	99.4
Pool (OxA-947)	−3096	−2894	68.2	−3339	−2875	95.4	−2971	−2891	68.2	−3035	−2869	95.4		125	99.4
Tofts Ness (GU-2366)	−3264	−2884	68.2	−3345	−2708	95.4	−2970	−2886	68.2	−3042	−2856	95.4		129.3	99.5

Name	*Unmodelled (BC/AD)*						*Modelled (BC/AD)*						*Indices Amodel 104.6 Aoverall 96.5*		
	from	*to*	*%*	*from*	*to*	*%*	*from*	*to*	*%*	*from*	*to*	*%*	*Acomb*	*A*	*C*
Stonehall (SUERC-5791)	−3011	−2905	68.2	−3087	−2890	95.4	−2962	−2897	68.2	−3011	−2891	95.4		110	99.5
Crossiecrown (SUERC-4857)	−3009	−2890	68.2	−3020	−2886	95.4	−2935	−2889	68.2	−3004	−2886	95.4		113.8	99.8
Pool (OxA-959)	−3082	−2873	68.2	−3309	−2668	95.4	−2957	−2876	68.2	−3027	−2847	95.4		134	99.7
Skara Brae (Birm 788)	−3094	−2678	68.2	−3336	−2579	95.4	−2961	−2861	68.2	−3028	−2793	95.4		140.2	99.6
Skara Brae (Birm 794)	−3085	−2680	68.2	−3326	−2580	95.5	−2956	−2861	68.2	−3026	−2788	95.4		140	99.6
Skara Brae (Birm 786)	−3090	−2674	68.1	−3336	−2574	95.5	−2961	−2856	68.2	−3027	−2791	95.4		138.6	99.6
Tofts Ness (GU-2205)	−3001	−2762	68.2	−3024	−2680	95.3	−2919	−2875	68.2	−3010	−2791	95.4		130.3	99.9
Tofts Ness (GU-2369)	−2921	−2676	68.2	−3080	−2580	95.4	−2927	−2847	68.2	−3008	−2784	95.4		120.4	99.7
Tofts Ness (GU-2367)	−2901	−2701	68.2	−2915	−2634	95.4	−2903	−2859	68.2	−2922	−2771	95.4		116.7	99.7
Skara Brae (Birm 787)	−2878	−2622	68.2	−2927	−2468	95.4	−2904	−2832	68.2	−2975	−2764	95.4		94.5	99.4
Skara Brae (Birm 433)	−2855	−2476	68.2	−2889	−2346	95.4	−2885	−2827	68.2	−2921	−2771	95.4		79.7	99.4
Skara Brae (Birm 436)	−2860	−2465	68.2	−2887	−2293	95.4	−2886	−2826	68.2	−2926	−2766	95.4		75.6	99.4
Skara Brae (Birm 434)	−2857	−2351	68.2	−2881	−2215	95.3	−2882	−2826	68.2	−2921	−2771	95.4		67.8	99.4
Tofts Ness (GU-2368)	−2834	−2465	68.3	−2866	−2342	95.4	−2871	−2824	68.2	−2898	−2796	95.4		40.5	99
Span Late Structure Phase 2							76	212	68.2	38	318	95.4			96.7
End Late Structure Phase 2							−2864	−2798	68.2	−2882	−2723	95.4			97.7
Start Late Structure Secondary Phase							−2935	−2873	68.2	−2980	−2793	95.4			97.6
Late Structure Secondary Phase															
Barnhouse (OxA-2736)	−3089	−2901	68.2	−3331	−2879	95.4	−2922	−2785	68.2	−2956	−2706	95.4		50.6	97.3
Ness of Brodgar (SUERC-6764)	−3010	−2892	68.2	−3081	−2883	95.4	−2916	−2841	68.2	−2936	−2751	95.4		121.2	97.8
Ness of Brodgar (SUERC-6191)	−2915	−2883	68.2	−3011	−2779	95.4	−2906	−2841	68.2	−2916	−2751	95.4		110	98.4
Stonehall (AA-51380)	−2911	−2778	68.2	−2926	−2679	95.4	−2900	−2774	68.2	−2910	−2710	95.4		117.7	98.5
Tofts Ness (GU-2362)	−2918	−2640	68.2	−3089	−2502	95.4	−2898	−2768	68.2	−2918	−2691	95.4		125.4	98.6

Name	*Unmodelled (BC/AD)*						*Modelled (BC/AD)*						*Indices Amodel 104.6 Aoverall 96.5*		
	from	*to*	*%*	*from*	*to*	*%*	*from*	*to*	*%*	*from*	*to*	*%*	*Acomb*	*A*	*C*
Ness of Brodgar (SUERC-6762)	−2899	−2712	68.2	−2911	−2677	95.4	−2896	−2773	68.2	−2907	−2702	95.3		108.4	98.4
Links of Noltland (GU 1429)	−2903	−2680	68.3	−2924	−2581	95.4	−2894	−2767	68.2	−2909	−2698	95.4		114.8	98.4
Ness of Brodgar (SUERC-6761)	−2883	−2696	68.1	−2892	−2633	95.4	−2884	−2769	68.2	−2894	−2698	95.4		106.4	98.6
Stonehall (SUERC-5789)	−2877	−2681	68.2	−2886	−2631	95.4	−2879	−2766	68.2	−2888	−2697	95.4		104.3	98.7
Tofts Ness (GU-2206)	−2879	−2631	68.2	−2915	−2488	95.4	−2885	−2775	68.2	−2906	−2676	95.4		112.6	98.9
Crossiecrown (SUERC-4853)	−2872	−2673	68.1	−2881	−2620	95.4	−2869	−2769	68.2	−2880	−2673	95.4		101.6	98.5
Links of Noltland (GU 1428)	−2869	−2629	68.2	−2890	−2501	95.4	−2879	−2777	68.2	−2894	−2676	95.4		105.3	98.9
Pierowall Quarry (GU 1582)	−2868	−2630	68.2	−2887	−2506	95.4	−2878	−2775	68.2	−2892	−2677	95.4		104.5	98.9
Pierowall Quarry (GU 1583)	−2868	−2630	68.2	−2887	−2506	95.4	−2879	−2776	68.2	−2892	−2677	95.4		104.5	98.9
Skara Brae (Birm 438)	−2878	−2581	68.2	−3022	−2349	95.4	−2886	−2776	68.2	−2910	−2671	95.4		117.8	98.8
Crossiecrown (SUERC-4852)	−2849	−2578	68.2	−2866	−2500	95.4	−2860	−2778	68.2	−2870	−2650	95.4		90.6	98.8
Ness of Brodgar (SUERC-6685)	−2840	−2503	68.2	−2865	−2491	95.4	−2866	−2736	68.2	−2876	−2628	95.4		83.9	99.4
Skara Brae (Birm 793)	−2866	−2470	68.2	−2911	−2209	95.4	−2881	−2776	68.2	−2904	−2663	95.4		103.7	99
Pierowall Quarry (GU 1584)	−2832	−2471	68.2	−2866	−2349	95.4	−2871	−2737	68.2	−2880	−2644	95.4		51.3	99.4
Span Late Structure Secondary Phase							38	198	68.2	0	313	95.4			97.7
End Late Structure Secondary Phase							−2839	−2695	68.2	−2855	−2580	95.4			95.5
Start Post-Neolithic Activity							−2440	−2305	68.2	−2513	−2277	95.4			98.4
Post-Neolithic Activity															
Links of Noltland (GU 1431)	−2568	−2346	68.2	−2623	−2209	95.4	−2383	−2284	68.2	−2459	−2231	95.4		80.9	99.8
Skara Brae (Birm 477)	−2617	−2287	68.2	−2860	−2144	95.3	−2396	−2278	68.2	−2454	−2229	95.4		106.1	99.8
Skara Brae (Birm 792)	−2574	−2212	68.3	−2861	−2057	95.5	−2397	−2276	68.2	−2454	−2228	95.4		119.8	99.8
Pool (GU-2242)	−2566	−2208	68.3	−2851	−2040	95.4	−2398	−2270	68.2	−2451	−2226	95.4		129.9	99.8
Crossiecrown (AA-51372)	−2464	−2341	68.2	−2476	−2210	95.5	−2396	−2277	68.2	−2446	−2240	95.4		102.7	99.7

Name	*Unmodelled (BC/AD)*						*Modelled (BC/AD)*						*Indices Amodel 104.6 Aoverall 96.5*		
	from	*to*	*%*	*from*	*to*	*%*	*from*	*to*	*%*	*from*	*to*	*%*	*Acomb*	*A*	*C*
Skara Brae (Birm 435)	−2472	−2202	68.2	−2618	−2033	95.3	−2399	−2271	68.2	−2452	−2227	95.4		126.6	99.8
Links of Noltland (GU 1430)	−2459	−2213	68.1	−2488	−2138	95.4	−2400	−2273	68.2	−2448	−2229	95.4		115.3	99.8
Rinyo (Q 1226)	−2457	−2208	68.2	−2547	−2058	95.4	−2400	−2270	68.2	−2449	−2227	95.4		117.3	99.8
Skara Brae (Birm 478)	−2548	−2057	68.2	−2850	−1920	95.4	−2400	−2267	68.2	−2451	−2225	95.4		133.6	99.8
Links of Noltland (GU 1433)	−2456	−2203	68.2	−2474	−2061	95.4	−2400	−2268	68.2	−2448	−2227	95.4		115.3	99.8
Skaill Bay (SUERC-4850)	−2339	−2203	68.2	−2457	−2146	95.3	−2396	−2266	68.2	−2440	−2214	95.4		93.9	99.7
Skara Brae (Birm 437)	−2429	−2036	68.2	−2550	−1911	95.4	−2399	−2259	68.2	−2450	−2221	95.4		106.7	99.8
Skaill Bay (SUERC-4851)	−2278	−2141	68.2	−2299	−2043	95.4	−2342	−2251	68.2	−2451	−2197	95.4		53.9	99.6
Span Post-Neolithic Activity							0	118	68.2	0	233	95.4			99.3
End Post-Neolithic Activity							−2328	−2220	68.2	−2430	−2163	95.4			99.3
Span Orcadian Neolithic Settlement Sequence							1111	1277	68.2	1014	1378	95.4			98.9
End Orcadian Neolithic Settlement Sequence							−2307	−2119	68.2	−2413	−1946	95.4			97.5

Quanterness, as the only Maes Howe style chambered cairn which can be usefully modelled as an individual site, makes up the majority of the model for Maes Howe style chambered cairns (see Schulting *et al* 2010). The model for the Maes Howe style chambered cairns not only includes dates from Quanterness but also dates from the chambered cairn of Quoyness (Renfrew 1990). The Maes Howe chambered cairns are modelled as a single primary phase for a number of reasons. First, though the stratigraphic sequence at Quanterness would seem to lend itself to Bayesian modelling, Schulting *et al*. (2010, 16–18) have shown that the stratigraphic sequence is unreliable and there is strong evidence that all of the deposits were subject to significant disturbance post deposition. Second, unlike the Orkney Cromarty cairns, the radiocarbon determinations for the Maes Howe style chambered cairns have yet to be shown to form statistically significant clusters which could be interpreted as separate phases of deposition.

The primary phase at Maes Howe style chambered cairns is modelled to have a start date of *3412–3206 cal BC* (68.2% probability) or *3456–3189 cal BC* (95.4% probability). However, the probability distribution suggests a less certain modelled start date of *3407–3352 cal BC* (42.3% probability). Schulting *et al* (2010, 18) consider Quanterness as having a relatively continuous phase of interment. In the model this phase is modelled to span *357–584 years* (68.2% probability) or *331–661 years* (95.4% probability). The Maes Howe style chambered cairns are then modelled to have an end date of *2845–2777 cal BC* (68.2% probability) or *2858–2692 cal BC* (95.4% probability). Overall, the model suggests that the use of Maes Howe chambered cairns for interment began a century or so after the first interments at Orkney-Cromarty chambered cairns, but may have been part of a continuum of

practice and development of architecture with some Orkney Cromarty sites possibly initially being used for interments within decades of the start of Maes Howe chambered cairns. Maes Howe style cairns also seem to have been used for interments for approximately an additional century after the second phase of interments ended at the Orkney Cromarty cairns.

Post-dating both the primary use of Maes Howe style chambered cairns as well as the faunal accumulation at the Orkney Cromarty chambered cairns is a phase that is labelled as Later Activity. The Later Activity phase consists of a sub-phase of human interment that took place at both Quanterness and Isbister as well radiocarbon determinations from the ditch of the chambered cairn at Maes Howe which seems to coincide with the human interments and therefore may relate to external or environmental factors which contributed to the temporary reuse of chambered cairns. The later human interment at Quanterness is based on two radiocarbon dates from a burial in Pit C. The burial in Pit C, when excavated, was considered a single individual (Renfrew *et al*. 1976, 202). However, radiocarbon determinations on the left radius and the left Ilium combine successfully as do determinations on the left tibia and right femur, while all four combine unsuccessfully. Therefore, it is considered here that there were at least two individuals buried within Pit C at Quanterness as is alluded to in Schulting *et al*. (2010, end note 4). The leg bones are considered to be from a later interment(s), separate from the primary interment phase of the site. The later interment at Isbister coincides nearly identically with later interment at Quanterness and these interments model together as a single phase very well.

As modelled the Later Activity phase has a start date of *2466–2336 cal BC* (68.2% probability) or 2518–2241 *cal BC* (95.2% probability). However, the human interment sub-phase has a modelled start date of *2466–2336 cal BC* (68.2% probability) or *2518–2241 cal BC*. Consequently the Later Activity phase as a whole has a modelled span of *0–155 years* (68.2% probability) or *0–313 years* (98.2% probability), while the Late Interments sub-phase has a modelled span of *0–14 years* (68.2% probability) or *0–52 years* (98.2% probability). Based on the span of the Late Interment sub-phase it can be suggested that these interments took place at nearly the exact same time. The Late Activity phase has a modelled end date of *2350–2135 cal BC* (68.2% probability) or *2445–1990 cal BC* (95.2% probability) The phase is modelled to span *38–226 years* (68.2% probability) or *0–347 years* (95.2% probability) with probability peaking around 120 years. The phase has a modelled end date of *2432–2187 cal BC* (68.2% probability) or *2465–1993 cal BC* (95.4% probability). The secondary use of Maes Howe style cairns is modelled to have a start date of *2547–2344 cal BC* (68.2% probability) or *2852–2249 cal BC* (95.4% probability), while the Late Interment sub-phase has a modelled end date of *2427–2308 cal BC* (68.2% probability) or *2461–2271 cal BC* (95.2% probability).

The final phase of the Orcadian chambered cairn chronology has radiocarbon dates that are far enough removed from the previous phases to be considered separate. In addition the phase is comprised entirely by radiocarbon dates from faunal remains which seem to have been incorporated significantly later at Point of Cott and Isbister than previous faunal remains dated at the respective sites. The radiocarbon determinations from Isbister are on the sea eagle bones and have been corrected for marine input. The phase has a modelled start date of *2343–2181 cal BC* (68.2% probability) or *2519–2140 cal BC* (95.4% probability). The phase is modelled to span *0–165 years* (68.2% probability) or *0–335 years* (95.4% probability). The phase is then modelled to have an end date of *2196–2042 cal BC* (68.2% probability) or *2272–1934 cal BC* (95.4% probability). This phase is almost

certainly from natural accumulation of faunal remains at the chambered cairns and overall should not be considered part of their use life as a monument.

Settlement chronology Bayesian model

Using the same methodology as the chambered cairns, seven overlapping phases were identified and incorporated into the settlement model (Fig. 2.3). The available dating evidence for settlement activity in Orkney predates the building of the earliest stone or timber structures at Knap of Howar, Stonehall and Wideford Hill. This pre-structure phase of settlement in Orkney consists of midden material recovered from near the site of Knap of Howar which predates the material dated and incorporated into the wall structure of the houses at Knap of Howar. The modelled start date for the entire Orcadian settlement sequence is *3611–3429 cal BC* (68.2% probability) or *3794–3385 cal BC* (95.4% probability). However, the modelled start date for the pre-structure phase is *3516–3401 cal BC* (68.2% probability) or *3595–3373 cal BC* (95.4% probability). This start date for settlement activity coincides with the first interments at the Orkney Cromarty chambered cairns. The pre-structure phase of activity is modelled to have a span of *0–61 years* (68.2% probability) or *0–153 years* (95.4% probability). Considering the radiocarbon determinations for this phase are only from the site of Knap of Howar it is likely that this phase represents activity which included the development of midden material and took place at the site for a very brief period of time. The end date for pre-structure phase of activity has a modelled date of *3444–3351 cal BC* (68.2% probability) or *3508–3288 cal BC* (95.4% probability).

Following the initial dated settlement phase without known architectural structures is a phase labelled the Early Structure Primary Phase. Radiocarbon determinations for the earliest Neolithic structures in Orkney are represented by the sites of Wideford Hill, Knap of Howar and Stonehall. This phase has a modelled start date of *3337–3142 cal BC* (68.2% probability) or *3426–3132 cal BC* (95.4% probability). However, the probability distribution for the start of the phase is tri-modal. Generally, probability distributions that are multi-modal are considered to be the result of a combination of too few radiocarbon determinations and the inherent wiggle in probability distributions within the calibration curve for radiocarbon determinations which are not normally distributed (for further discussion see Whittle *et al*. 2011, 23–27). However, in the case of the model of settlement sites in Orkney there is additional prior information which cannot be incorporated into the model without making the model unstable. Yet, the additional prior information from individual site models can, if used separately, increase the likelihood of any particular peak in the probability distribution. Based on individual site models as well as the stratigraphic relationship between early structures and later structures, it is most likely that the earliest Neolithic structures have a start date of *3426–3343 cal BC* (26.2% probability). Importantly, no matter how the earliest structures are modelled, the earliest structures are likely to post-date the initial use of Orkney-Cromarty chambered cairns by approximately a century and in general coincide with the first use of Maes Howe style chambered cairns. The Early Structure Primary phase is modelled to span *0–94 years* (68.2% probability) or *0–278 years* (95.2% probability) This phase has a modelled end date of *3204–3104 cal BC* (68.2% probability) or *3321–3061 cal BC* (95.2% probability). Overall, the model for the earliest Neolithic structures in Orkney suggests that there may have been significant overlap in use between early structures and later structures.

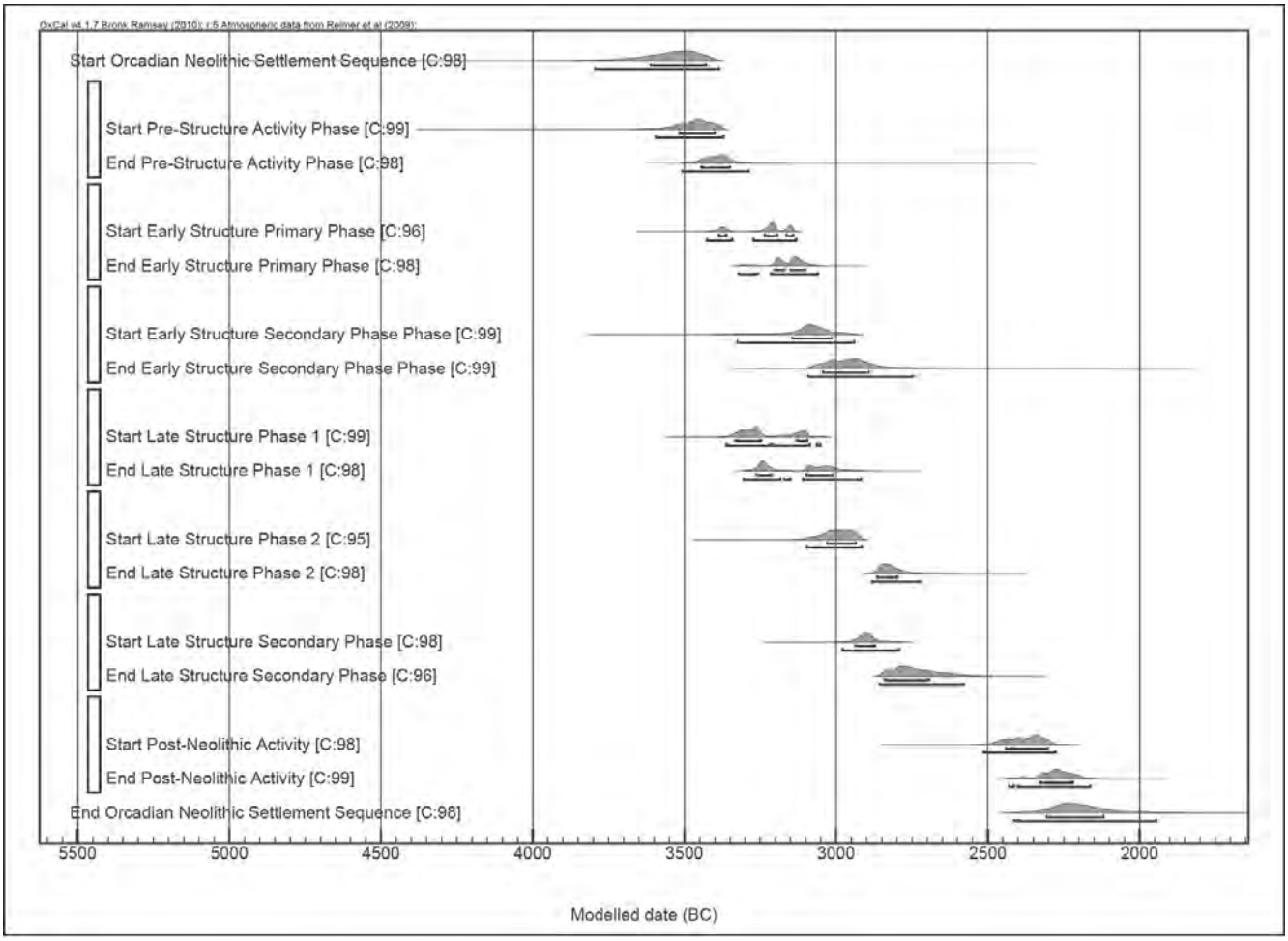
Start Orcadian Neolithic Settlement Sequence [C:98]
Start Pre-Structure Activity Phase [C:99]
End Pre-Structure Activity Phase [C:98]
Start Early Structure Primary Phase [C:96]
End Early Structure Primary Phase [C:98]
Start Early Structure Secondary Phase Phase [C:99]
End Early Structure Secondary Phase Phase [C:99]
Start Late Structure Phase 1 [C:99]
End Late Structure Phase 1 [C:98]
Start Late Structure Phase 2 [C:95]
End Late Structure Phase 2 [C:98]
Start Late Structure Secondary Phase [C:98]
End Late Structure Secondary Phase [C:96]
Start Post-Neolithic Activity [C:98]
End Post-Neolithic Activity [C:99]
End Orcadian Neolithic Settlement Sequence [C:98]
5500
5000
4500
4000
3500
3000
2500
2000
Modelled date (BC)

Figure 2.3 Model for Orcadian settlement sites. Each phase was considered as potentially overlapping the others. The phases were identified through a combination of typological, stratigraphic and associated material evidence, as well as through individual site modelling. The agreement indices for both individual determinations and the overall model are good

The Early Structure Primary Phase is followed by the Early Structure secondary phase which is entirely derived from radiocarbon determinations at the site of Knap of Howar. This phase has a modelled start of *3146–3016 cal BC* (68.2% probability) or *3326–2941 cal BC* (95.4% probability). The phase has been separated from the Early Structure Phase as there seems to be a significant gap between the Primary Phase and the Secondary Phase at Knap of Howar. The secondary phase at Knap of Howar may go some way to explain the presence of flat based pottery in small quantities at the site, likely related to Grooved Ware (MacSween 1992, 271; Ritchie 1990, 48). The Early Structure Secondary Phase is modelled to have a span of *0–126 years* (68.2% probability) or *0–334 years* (95.4% probability). The end date for this phase is modelled at *3043–2893 cal BC* (68.2% probability) or *3091–2748 cal BC* (95.2% probability). As will be shown below, early Neolithic structures, do not seem to be abandoned with the development of later architectural styles, and in the case of Knap of Howar, the site seems to be re-inhabited during the life of late Neolithic structures.

The first phase of late Neolithic structures has been labelled as Late Structures Phase 1. This phase incorporates radiocarbon determinations from five different sites, identified through a combination of Grooved ware and architectural features. The phase has a modelled start date of *3333–3096 cal BC* (68.2% probability) or *3362–3054 cal BC* (95.2% probability) but more probably

between *3362–3217 cal BC* (62.2% probability). The modelled start date indicates that late Neolithic structures quickly developed after the very first structures appeared in Orkney, most likely within a century or so. The period is modelled to have a span of *0–110 years* (68.2% probability) or *0–322 years* (95.4% probability). The modelled end date for the Late Structure Phase 1 is *3262–3010 cal BC* (68.2% probability) or *3305–2919 cal BC* (95.4% probability) but more probably between *3109–2919 cal BC* (52.4% probability).

The first phase of late Neolithic structures is directly succeeded by what is labelled as Late Structures Phase 2. This phase has been identified through the changes in architecture and settlement organisation discussed by Richards (1998, 528) and above. The Late Structures Phase 2 has a modelled start date of *3031–2936 cal BC* (68.2% probability) or *3096–2917 cal BC* (95.4% probability). This phase has a modelled span of *76–212 years* (68.2% probability) or *38–318 years* (95.4% probability). The phase then has a modelled end date of *2864–2798 cal BC* (68.2% probability) or *2882–2723 cal BC* (95.4% probability). Interestingly this phase coincides almost exactly with the model for the dated material recovered from the Stones of Stenness stone circle. The Stones of Stennes model has a start date of 2926–2891 cal BC (68.2% probability) or *2967–2882 cal BC* (95.4% probability) and a modelled end date of *2893–2854 cal BC* (68.2% probability) or *2903–2761 cal BC* (95.4% probability). Therefore it can be suggested that the Orcadian stone circles are likely to date to at least the second phase of late Neolithic structures.

After the first two primary phases of activity at late Neolithic structures is a phase labelled here as Late Structure Secondary Phase. The radiocarbon determinations from this phase are from midden material associated with six different sites. From the excavation reports, it appears that most of the settlements went out of use in terms of habitation but continued to be a location suitable for the deposition of midden material. Exceptionally, at the sites of Pool and Barnhouse a large structure (coincidently labelled structure 8 at both sites), architecturally unlike other domestic structures, is considered to be the only structure in use during the final phase of the respective sites (Hunter 2000, 121–122; Hill & Richards 2005, 159). It should also be noted that the limited published radiocarbon determinations for the site at the Ness of Brodgar, which is still under excavation, fall within this phase of activity. The published radiocarbon dates from the Ness of Brodgar are from the start of the excavations at the site and likely date the final phase (Card 2011; Cluett 2006). The Late Structure Secondary Phase has a modelled start date of *2935–2873 cal BC* (98.2% probability) or *2980–2793 cal BC* (95.4% probability). From the model it is obvious that there is some overlap with the Late Structure Phase 2, which is unsurprising considering the secondary phase marks a change in activity that was not necessarily adopted simultaneously across Orkney. The Late Structure Secondary Phase is modelled to span *38–198 years* (68.2% probability) or *0–313 years* (95.4% probability). The end date for this phase is modelled at *2839–2695 cal BC* (68.2% probability) or *2855–2580 cal BC* (95.4% probability).

There is a clear separation in time between the Late Structure Secondary Phase and the final phase modelled, labelled Post-Neolithic Activity. It is labelled as such because it is generally associated with material or activities at the various sites which are likely to be associated with Bronze Age re-use. The phase has a modelled start date of *2440–2305 cal BC* (68.2% probability) or *2513–2277 cal BC* (95.4% probability). The phase has a modelled span of *0–118 years* (68.2% probability) or *0–233 years* (95.4% probability). The end date for the phase is modelled at *2328–2220 cal BC* (68.2% probability) or *2430–2163 cal BC* (95.4% probability).

The chronological sequence, as proposed here, suggests that the majority of chambered cairns in Orkney, whether of the Orkney-Cromarty style or the Maes Howe style, were first used for human interment during the relatively short time-span of 3350–3550 cal BC. Such a suggestion is not at odds with time-estimates for their construction (Barber 1992). There is a significant gap of up to 500 years between the first interments at Orkney-Cromarty style chambered cairns and the second phase of interment taking place at these sites. However, based on the current evidence, it appears that Maes Howe style chambered cairns were used relatively consistently over a period of four or five hundred years. Even if Maes Howe style chambered cairns and Orkney-Cromarty cairns could not be differentiated on a typological basis, the chronological evidence combined with the evidence for activities taking place at the different types of monument would be sufficient to differentiate these monument styles. The modification of the enveloping cairn at Orkney-Cromarty cairns may coincide with the development of Maes Howe style chambered cairns. However, there is no clear evidence placing the modification of the cairn structure to a specific period of time. The evidence from the Knowe of Lairo where the chamber was modified, possibly during construction, into a Maes Howe style chambered cairn now suggests that Orkney-Cromarty cairn construction quickly transitioned into Maes Howe style chambered cairn construction as a continuation of practice. Yet, despite evidence for architectural continuity and development between Orkney-Cromarty chambered cairns and Maes Howe style chambered cairns, there is no evidence to suggest continuity in interment practices with the change from one style of chambered cairn to the other. The evidence for this comes from the regular interment of human remains at Quanterness instead of the discreet deposits separated by centuries at Orkney-Cromarty chambered cairns. It should be noted that only a limited number of chambered cairns have been dated and most conclusions are subject to potential reinterpretation should more dates become available.

Many of the settlement sites seem to be established within a 200 year period between 3400 and 3200 cal BC. Each settlement site had its own unique history. Some sites, such as Wideford Hill, were inhabited for a short period of time, no more than a century. While other sites, such as Stonehall were inhabited throughout the Neolithic (Kerns 2015). Importantly, all of the dated settlement architecture post-dates the initial use of chambered cairns for the interment of human remains by nearly a century and generally coincide with the development of Maes Howe style chambered cairns. As such, based on the evidence it is no longer possible to view chambered cairns as metaphorically and symbolically representing “houses for the dead” based simply on architectural similarities with what once was considered contemporary domestic architecture (Hunter 2000, 117–122; Parker-Pearson & Richards 1994b, 42; Richards 1988, 54; Ritchie 1990, 52). Instead, based on the chronological sequence presented here, it can be suggested that the construction of both settlement structures and chambered cairns mutually informed architectural engineering and development between 3400–3200 cal BC. The architecture is still likely to hold potent symbolic and metaphoric meaning to those living in Orkney during the Neolithic. With the Orkney-Cromarty chambered cairns pre-dating the settlement sites, it may be that architecture itself was a potent means of reference to the past as is suggested by Whittle *et al* (2007, 133) for southern Britain. Finally, it appears that the use of settlement sites for habitation seems to come to a relatively abrupt end sometime between 2900–2750 cal BC. This coincides within a century or so of the end of use of all of the chambered cairns for interment as well as the construction of the stone circle at the Stones of Stenness. However, it is not that settlement sites are abandoned

completely, instead they take on a different role within society in which they are locations suitable for the deposition of large quantities of midden material, implying on-going occupation which is expressed significantly differently than previous occupation and settlement.

Spatial analysis of Orcadian monuments, settlements and landscape

Today, Orkney is an archipelago consisting of approximately 70 islands. The islands vary in size and there is rarely more than 2 km separating each island (Sturt 2005, 71). The majority of the islands are low-lying with infrequent high points and are separated from the mainland by an expanse of water known as the Pentland Firth. However, the present landscape of Orkney has changed significantly since the Neolithic. These changes in the landscape present a challenge in producing a spatial analysis of Neolithic monuments, settlements and landscape. Since the end of the last Ice Age, the physical topography of Orkney has changed as the result of two major processes, rising sea levels and coastal erosion. Relatively little is known, however, regarding past changes in sea level around the Orkney Islands (Smith *et al*. 1996, 262). The majority of the evidence relating to sea level changes derives from locations in close proximity to Orkney, such as Caithness and Shetland, rather than from Orkney itself. The progression and chronology of the inundations during the Holocene, however, remains uncertain (Hansom 2003, 9; Saville 2000, 97). Recent modelling has suggested that it is likely that the sea level around Orkney would have been around 5 m lower during the Neolithic (Phillips 2002, 265). Modern admiralty charts confirm that with a 5 m decrease in sea level a number of the smaller islands of Orkney are conjoined, thus creating a greater collective land-mass, but with the largest islands still remaining separate (Phillips 2002, 266). Present land-contours cannot be employed to infer past sea levels with any degree of accuracy as shifting tides, currents and erosional processes have not only changed the configuration of the land, but also the seabed (Phillips 2002, 266). In the absence of focused studies, the complex and localized nature of coastal change, as it relates to erosional processes, makes reconstructing the coastlines and the broader landscapes of Neolithic Orkney problematic.

Landscape-scale spatial structures are generally examined through patterns of visibility using GIS techniques such as viewshed analysis, though there is no reason why other techniques could not be applied to larger scales of analysis. Every cultural landscape generates some level of visual experience and structure which define spatial interrelationships imbued with social and cosmological meaning. Examining macro-scale spatial structures using viewshed analysis requires that patterns of visibility are investigated while avoiding focusing exclusively on specific locations and, instead, on the pattern as a whole – in other words, spatial structures need to be examined as part of the overall "visualscape". The concept of a visualscape, as defined by Llobera (2006, 149), encapsulates the notion that a spatial representation generated by a spatial configuration can elucidate spatial structures in the landscape. The intentionality behind visualscapes is, however, difficult to assess as choices in the siting of physical structures are made within cultural frameworks of acceptable social action and possibly made subconsciously (Lagerås 2002, 179; Phillips 2002, 296).

A number of criticisms have been levelled at the use of viewshed analysis in archaeology and include issues surrounding GIS advocating environmentally, functionally and technologically deterministic viewpoints, while privileging vision and the visual aspects of sites (Cummings & Whittle 2004, 21). There are a number of limitations regarding viewshed analysis when using GIS software. The software does not take into account, for instance, vegetation, poor eyesight, weather phenomenon and

the curvature of the earth (Lagerås 2002, 182; Phillips 2002, 59; Woodman 2000, 92). Broadly, correlation in any form of spatial analysis is often mistaken for causation (Woodman 2000, 92). Though reasonable to a degree, the criticisms of the technique are often directed at individual investigations rather than the specific methodologies. There is nothing inherent in viewshed analysis that encourages any specific viewpoint, nor does it necessarily privilege the visual over other data. Rather, these techniques merely produce statistic from the data that is inputted into the analysis. As with many other processes of procuring archaeological data, the selection, creation and interpretation of this data is subjective and, therefore, has the same associated theoretical challenges (Hodder 1999, 80–104). Consequently, a critical approach to interpreting the data collected and produced by viewshed analysis is called for.

Viewshed analysis of orcadian monuments and settlements

Viewsheds purport to show the area of landscape visible from a given location, yet the converse is not necessarily true. In other words, viewsheds do not necessarily indicate intervisibility (Wheatley & Gillings 2002, 210). The issue of reciprocal visibility is caused by the input of an offset for an observer's height, which significantly impacts what is visible (Wheatley & Gillings 2002, 211; Woodman 2000, 98). The default setting for viewshed analysis in ArcGIS 10 is a 1 m offset at the input point. However, ArcGIS 10 allows the manual input of an offset at the input points as well as for all other raster cells in order to account for the height of the observer. Significantly, this means there is the potential for three different types of viewshed from a single point or a set of given points; the views-from, the views-to and intervisibility (Wheatley & Gillings 2002, 211). Here, in order to differentiate between views-from viewshed and views-to viewshed, the term viewshed generally refers to views-from given points whereas the term visibility refers to views-to given points.

A number of researchers have commented that chambered cairns in Orkney seem to be located prominently within the landscape (Davidson 1979, 13–14; Davidson & Henshall 1989, 15–18; Fraser 1983, 301). Woodman (2000, 92) correctly critiques these comments suggesting that they "are often the result of subjective (personal observation), qualitative (rather than quantitative), and sometimes partial observation (much of the work has concentrated on the Rousay cairns alone)." Woodman (2000, 97) clearly demonstrated that from a majority of the modern landscape in Orkney even a single chambered cairn would not be visible. This illustrates a significant divide between qualitative observations that chambered cairns are visibly prominent and quantitative analysis indicating that chambered cairns are not prominently visible.

A set of cumulative viewsheds and visibilities were generated for settlement sites as well as chambered cairns. These included viewsheds and visibilities with maximum distance values of 2.5 km, 5 km and 10 km. From the viewsheds and visibilities, a set of intersection calculations were generated. Intersections included each viewshed and visibility intersecting with the land, the sea and with corresponding maximum distances of the other site type (i.e. chambered cairn viewshed 10 km radius with settlement viewshed and visibility 10km radius). Area calculations for all viewsheds, visibilities and intersections were obtained and tabulated for the purpose of comparison and analysis (Kerns 2015). Further, the number of chambered cairns visible within settlement viewsheds was also calculated. Field observations supplemented the results obtained from viewshed and visibility analyses for the visibility of chambered cairns from settlement sites as the GIS-based results were not

necessarily always accurate due to the limitations in the accuracy of the data inputted into the Digital Terrain Model as well as the precise location data.

From the area measurements for where the visibilities intersected the land, at a 2.5 km maximum distance chambered cairns are visible from 11.2% of the modern Orkney landscape (Fig. 2.4). Woodman (2000, 97) has argued that a 5 km maximum distance is a generous distance from which it is physically possible to see chambered cairns. At a 5 km maximum distance chambered cairns are visible from 26.3% of the modern Orkney landscape (Fig. 2.5). Finally, at a 10 km maximum distance chambered cairns are visible from 44.9% of the modern Orkney landscape (Kerns 2015; Fig. 2.6). As indicated in Woodman's (2000) study, chambered cairns are clearly not visible from the majority of the modern Orcadian landscape. The frequency in which settlements were located in areas, from which chambered cairns are visible, was statistically significant. A total of 16 out of the 26 settlement sites tested are located in places where a chambered cairn is visible at a 2.5 km maximum distance. Further, at a 5 km maximum radius 23 of the 26 settlements are located in areas where chambered cairns are visible and at a 10 km maximum radius all of the 26 settlements are located in an area in which at least one chambered cairn is visible (Kerns 2015). The areas from which two or more chambered cairns are visible within a 5 km maximum distance as well as the areas in which three or more chambered cairns are visible within a 10 km maximum distance are substantially smaller. At a 5 km maximum distance, two or more chambered cairns are only visible from 4.7% of the modern Orcadian landscape, whereas at a 10 km maximum distance three or more chambered cairns are only visible from 8% of the modern Orcadian landscape (Kerns 2015; Figs 2.7 & 2.8). Yet, the number of settlements located within these areas included 13 settlements located in the 5 km maximum distance area in which two or more chambered cairns are visible and 14 settlements located in the 10 km maximum distance area in which three or more chambered cairns are located.

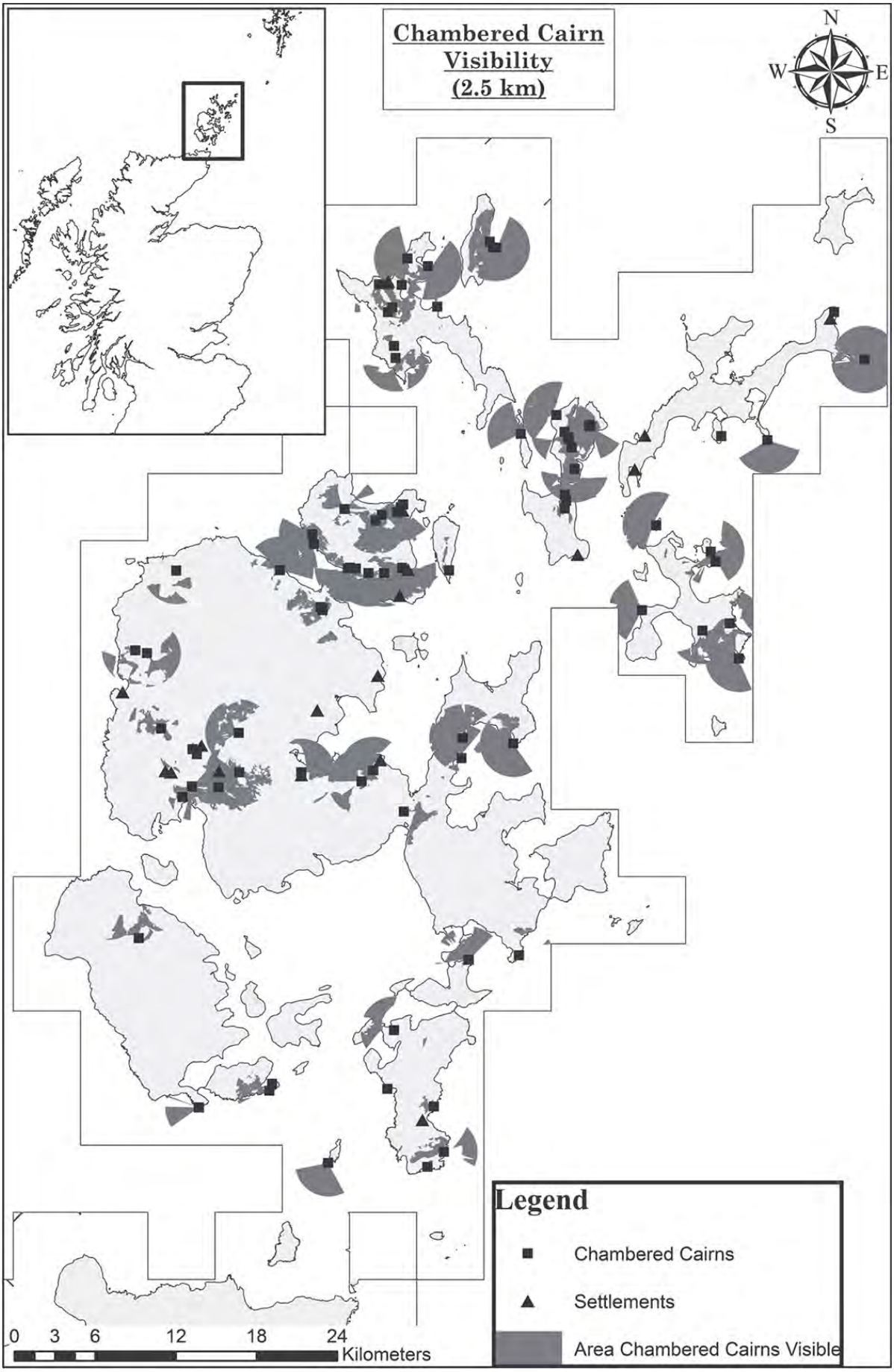

Figure 2.4 Map of the visibility of chambered cairns (2.5 km radius)

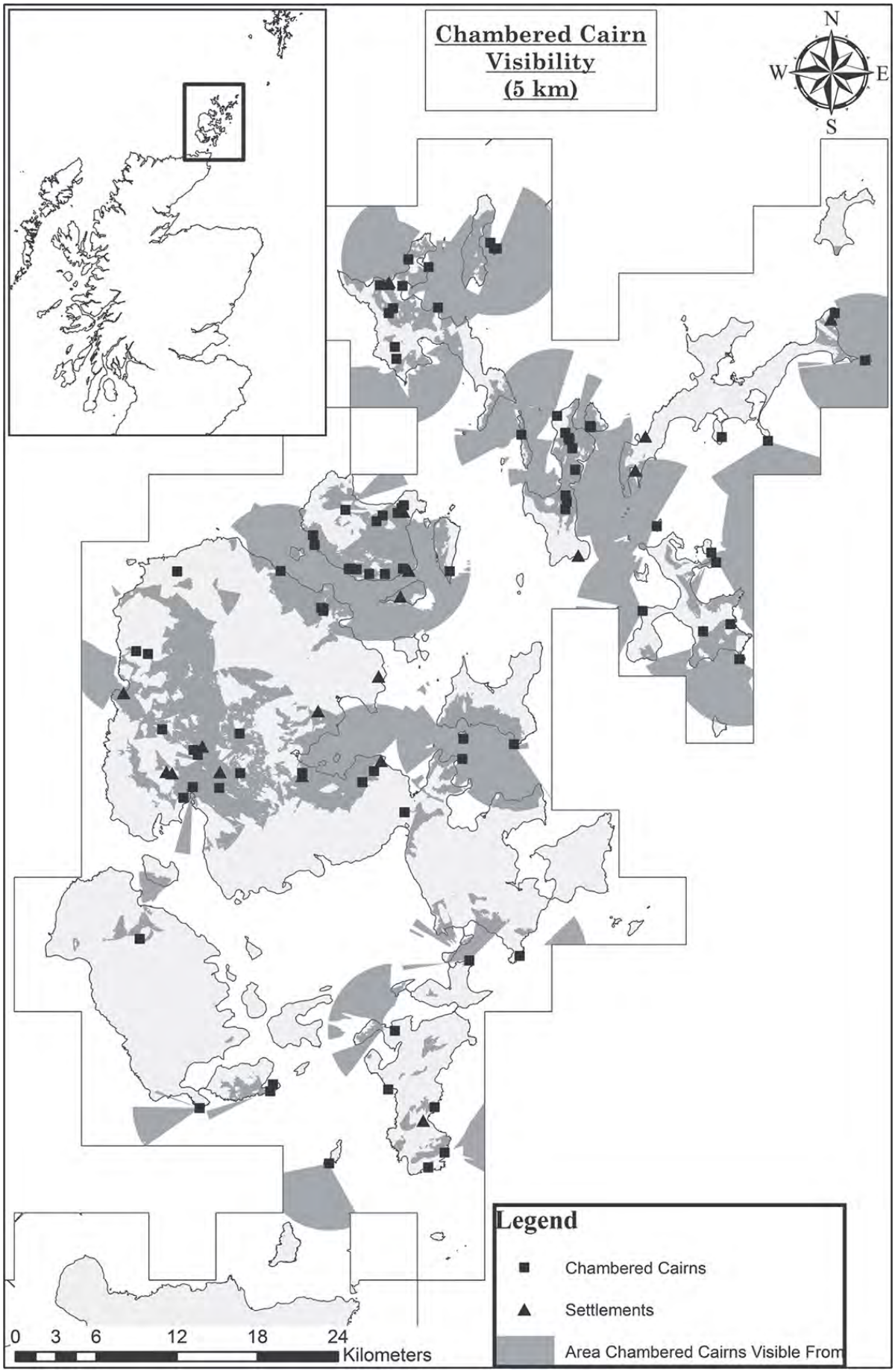

Figure 2.5 Map of the visibility of chambered cairns (5 km radius)

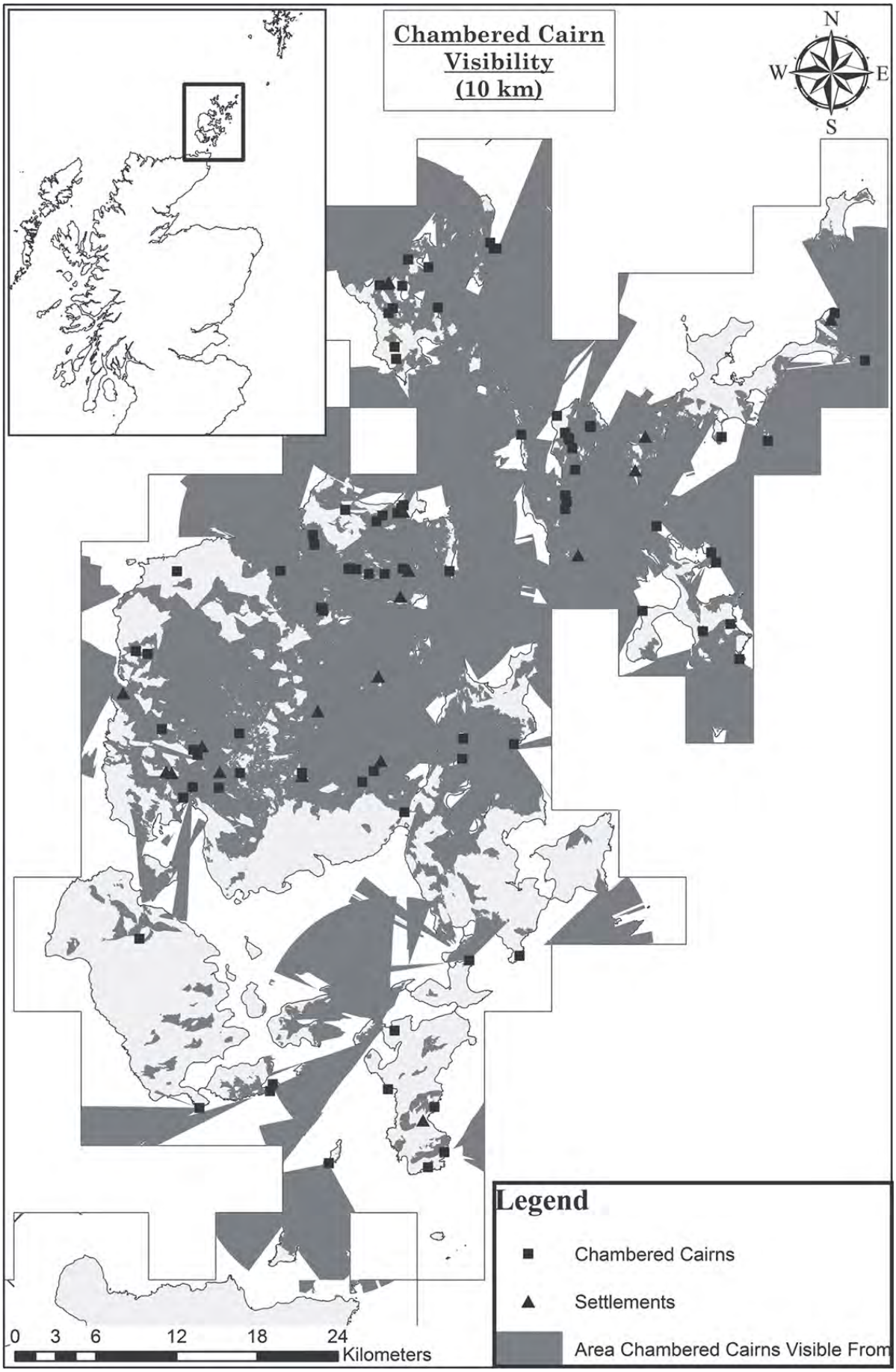

Figure 2.6 Map of the visibility of chambered cairns (10 km radius)

The spatial analyses demonstrates that it is extremely likely that either settlement sites were located with regards to the visibility of chambered cairns or that chambered cairns were located with regards to their visibility from settlement locations. The probability that such a relationship was the result of random chance or a product of the Orcadian topography is so small the numbers seem imaginary (Kerns 2015). The most statistically significant aspect of the locations of chambered cairns and settlements is that they are inter-visible. The probability of the pattern expressed by the locations of chambered cairns and settlements on the landscape happening unintentionally is so infinitesimal, that instead it should be viewed as a feat of social and landscape engineering as great if not greater than the astronomical alignments associated with monuments such as Maes Howe and the Ness of Brodgar.

As was discussed above, based on the current evidence the Orkney-Cromarty chambered cairns are likely to predate the construction of stone architecture at settlement sites, whereas Maes Howe style chambered cairns are likely to begin use as funerary monuments at a similar period in time as the earliest known settlements. Therefore, in terms of Orkney-Cromarty style chambered cairns, it can be suggested that settlements are located with consideration to the visibility of the chambered cairns. This is not necessarily the case with Maes Howe style chambered cairns, as two examples – Maes Howe and Howe of Howe – are constructed on top of possible settlement structures (Challands *et al*. 2005). Further, the presence of Mesolithic artefacts at the location of some Neolithic settlements indicates that the locations in which settlements were constructed may have had previous significance which potentially influenced the location of Orkney-Cromarty style chambered cairns (Richards 2005b; Saville 2000). It may also be of importance, though it has not been properly tested, that both of the stone circles at the Ring of Brodgar and the Stones of Stenness as well as a number of standing stones are also located in the area in which two or more chambered cairns are visible within a 5 km maximum distance. Chambered cairns are prominently visible from settlements and potentially places of special significance within the landscape.

It can be conclusively argued that either settlements are located with particular consideration of the visibility of chambered cairns or that chambered cairns are specially located with particular consideration of their visibility from settlements. It has now been clearly demonstrated that the areas from which chambered cairns were visible was of particular significance during the Neolithic and that settlements are extremely likely to be situated within the area from which chambered cairns are visible. This has been done by demonstrating that chambered cairns are prominently visible from the location of settlement sites, but not from the landscape as a whole. Evidence from sites such as Links of Noltland and Tofts Ness suggest that settlements were also established overlooking cultivable land likely used for the growing of crops or the grazing of livestock (Dockrill *et al*. 2007; Sharples 2000). Therefore, practical concerns such as access to drinking water, pasture, arable land and other resources may also have further influenced the location of settlement sites. Overall this study has shown that the spatial relationship between settlements and chambered cairns is similar to the relationship observed by Phillips (2002) for north-eastern mainland Scotland. Based on the chronological separation between the first Orkney-Cromarty cairns and the first stone built settlements it can easily be suggested that the chambered cairns were potent references to the past for those living nearby. The chambered cairns may have both metaphorically and literally held the ancestors of those living in the nearby settlements thereby becoming a socially potent location on the landscape. The chronological separation of the earliest chambered cairns from the earliest permanent construction of stone settlements is insufficient

for their initial use as mortuary monuments to have been forgotten by local populations. Therefore, chambered cairns may be associated with places of origin, featuring prominently in prevailing mythologies, thereby allowing the mediation, incorporation and connection of various physical and metaphysical elements of the landscape (Kerns in prep.). In this manner, the chambered cairns could have served both as a point of origin and foundation for the settlement communities (Eliade 1959, 22–23 & 36–37; Parker-Pearson & Richards 1994a, 12).

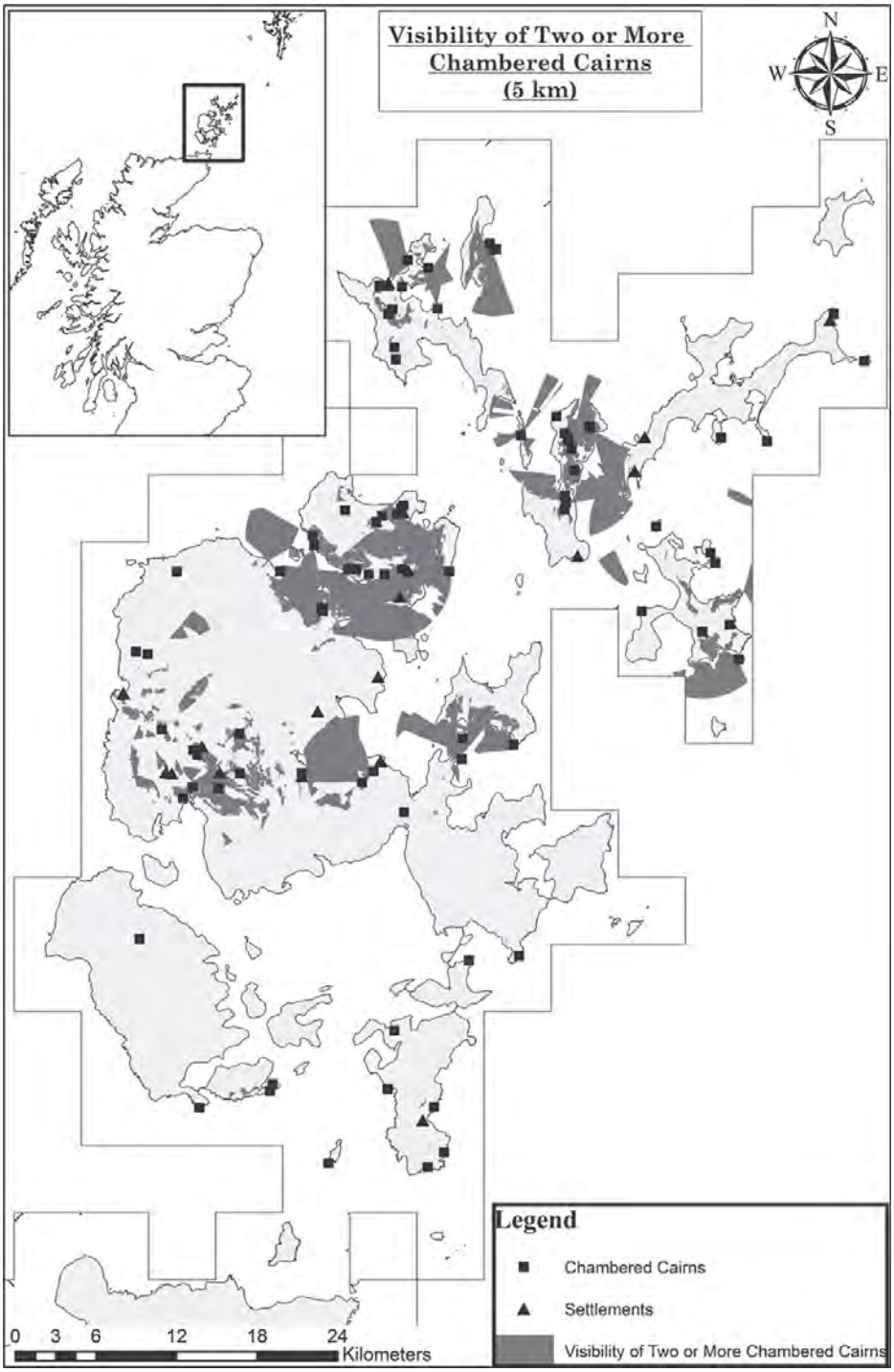

Figure 2.7 Map of the visibility of two or more chambered cairns (5 km radius)

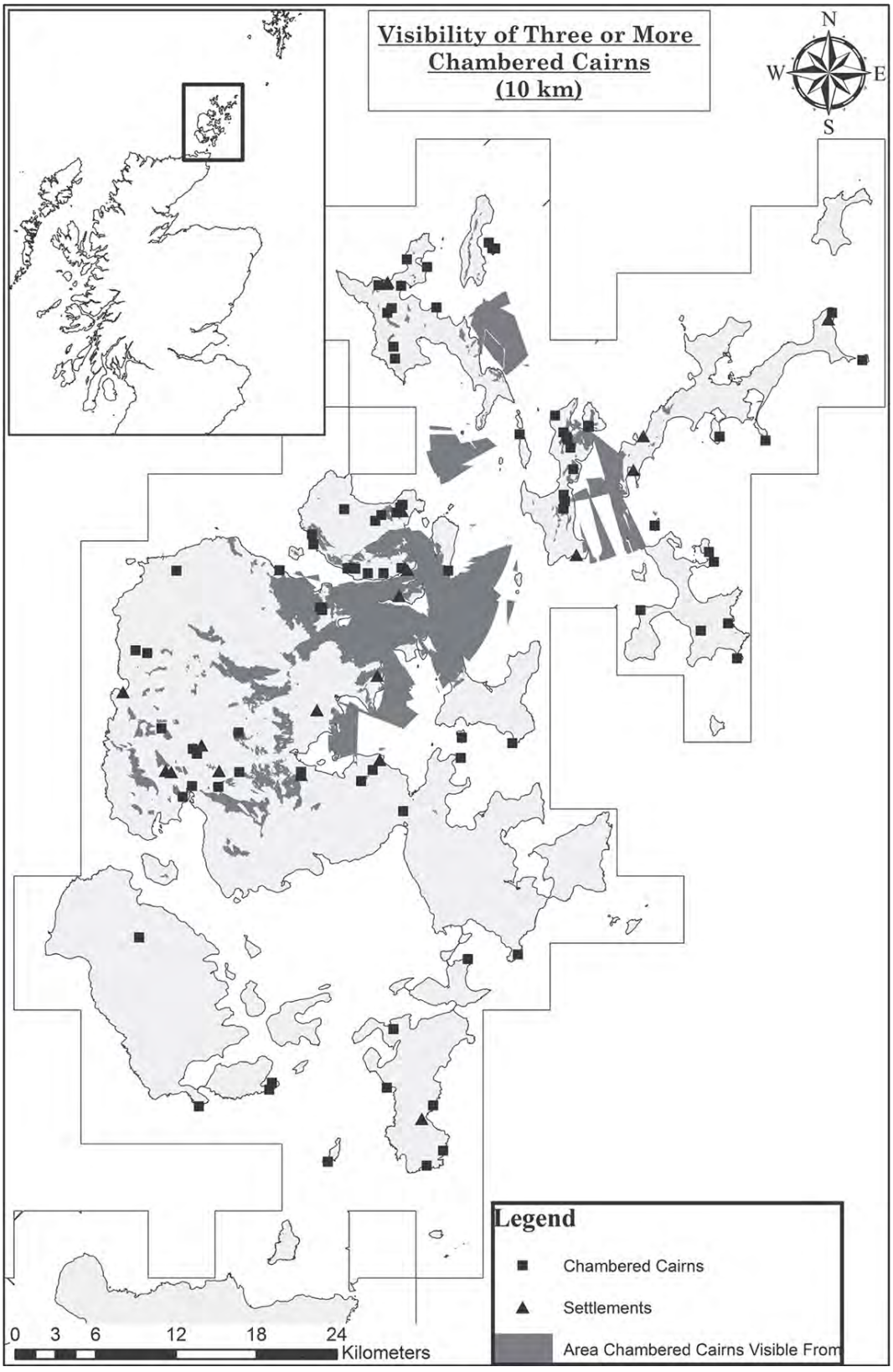

Figure 2.8 Map of the visibility of three or more chambered cairns (10 km radius)

Discussion and conclusions

Previous studies which have examined chambered cairns and settlements separately have suffered in their interpretations because of that separation. Sometime this separation was justified, as until

relatively recently few settlements were known in Orkney. In contrast, explicitly examining chambered cairns and settlements together has demonstrated the value of such an approach.

The chronological modelling of the radiocarbon dates produced a coherent chronology which indicates that many chambered cairns precede the development of the recognised Neolithic settlement architecture in Orkney. It has further demonstrated that there is a significant difference between depositional practices taking place at Orkney-Cromarty style chambered cairns and those activities taking place at Maes Howe style chambered cairns. What has been considered earlier Neolithic architecture overlaps later architecture. Further, the evidence from the chronological modelling suggests that a significant change took place towards the end of the Neolithic in which the nature of settlement dramatically changed and included monumental architecture, while simultaneously chambered cairns were no longer used for the deposition of human remains. Finally, the chronological evidence demonstrates that it is unlikely that chambered cairns drew symbolic references from settlement architecture as for the most part the construction of chambered cairns almost certainly predates settlement architecture.

The results of the viewshed and visibility analyses directly challenged some of the conclusions made by previous studies. In terms of Orkney-Cromarty style chambered cairns, it can be suggested that settlements are located with consideration to the visibility of the chambered cairns. This is not necessarily the case with Maes Howe style chambered cairns, as two examples – Maes Howe and Howe of Howe – are constructed on top of possible settlement structures (Challands *et al*. 2005). Further, the presence of Mesolithic artefacts at the location of some Neolithic settlements indicates that the locations in which settlements were constructed may have had previous significance which potentially influenced the location of Orkney-Cromarty style chambered cairns (Richards 2005b; Saville 2000). It may also be of importance, though it has not been properly tested, that both of the stone circles at the Ring of Brodgar and the Stones of Stenness as well as a number of standing stones are also located in the area in which two or more chambered cairns are visible within a 5 km maximum distance. Chambered cairns are prominently visible from settlements and potentially places of special significance within the landscape.

Analysis has conclusively shown that settlement sites were located in such a way as to have chambered cairns visible from them rather than being preferentially situated on the landscape with regard for particular views of the sea. Therefore, based only on their location, Neolithic sites cannot be shown to have referenced the sea or put any special significance on its presence within the landscape. However, the role the sea played in Neolithic Orcadian society should not be dismissed. As an island society where the physical presence of the sea cannot be ignored, the sea is still likely to have had an integral role in both the construction of identities and the formation of cosmology. Travel and movement over the sea is still likely to have been relatively common for people living in Orkney. Both the social and cosmological roles the sea could have played in Neolithic society have been discussed elsewhere (Kerns 2010). Importantly, the perils of the sea – both travelling across it and dwelling near it – are conducive to the creation of rituals and taboos by communities (Poggie *et al*. 1976). Avoidance rituals, taboos and object-mediators are regarded as responses to perceived danger, both physical and metaphysical, and act as social mechanisms for reducing anxiety and uncertainty (Poggie *et al*. 1976, 68; van Ginkel 1990, 74). Rituals and taboos are perceived to protect societies from cosmological danger in a manner that becomes embedded within the fabric of society and often permeates the

physical manifestations of society (Kerns 2010, 125). Rituals, taboos and object-mediators, therefore, are likely to have been incorporated into the social and cosmological structures inherent within the built environment of chambered cairns, settlements, and other monuments. These rituals, taboos and object-mediators may even have, at least initially, been linked to those associated with the sea.

While the sea is likely to have played a role in the formation of cosmology and social identity within Orkney, the demands of inhabiting the landscape in a more sedentary fashion is also an integral part of both communal and individual identity as well as the formation of cosmology. The changes inherent in the adoption of Neolithic lifeways undoubtedly brought about major changes in both identity and cosmology. At the heart of these changes was the formation of permanent settlement locations on the landscape. Settlements were at the centre of day to day subsistence activities based on evidence from sites such as Links of Noltland and Tofts Ness where it is suggested that settlements were established in close proximity to cultivable land likely used for the growing of crops or the grazing of livestock (Dockrill *et al*. 2007; Sharples 2000). Physical architecture, such as in settlements, incorporate concepts of contamination and cleanliness associated with the disposal of refuse and socially charged objects as a response to the dangers and social stresses inherent in living in settled communities (Jones & Richards 2005, 51; Marcucci & Kerns 2011, 182).

The responses to danger and social stresses in the form of rituals, taboos and object mediators can manifest in a number of ways. It has been suggested that the design and use of drainage systems built throughout a number of settlements was part of that social response by separating contaminated substances (Jones & Richards 2005, 51). The late Neolithic settlements of Skara Brae, Rinyo and Barnhouse all have complex drainage systems as does the recently excavated site of Braes of Ha'Breck (Childe 1931; Childe & Grant 1947; Jones & Richards 2005; Thomas pers comm). Though fire can embody many disparate meanings, its recurrent prominence in settlement architecture and structuring of space could also suggest that it played a role in purification and protection from danger, contamination or perceived meta-physical influences. Individual settlements went through significant periods of demolition, reconstruction, abandonment and rehabitation, thereby, demonstrating their own unique histories as the settlements of Barnhouse and Knap of Howar illustrate (Richards 1991, 27; Ritchie 1983). The demolition and rebuilding of houses within settlements, therefore, may have been related to protocols pertaining to the appropriate response to the danger and pollution associated with the death of individuals (Richards 1991, 27). Settlements, in general, have been shown in this study to be situated so that chambered cairns are visible, but at some distance, from them. What role do chambered cairns have in Neolithic society and how are they incorporated into a cosmology potentially saturated with taboos, rituals and object mediators? Similar themes of danger, pollution, and contamination may also be present and manifested at chambered cairns. The chambered cairns themselves may have been an extension of the interdictions, rituals and object-mediators present at settlement sites. Further, chambered cairns themselves may have directly been a response to perceived social dangers and stresses which existed prior to the construction of known settlement.

This study has shown that the activity at the first Orkney-Cromarty style chambered cairns predates the first dated Neolithic settlements. Yet, the people who built the first chambered cairns did inhabit the landscape, just not necessarily in relatively permanent stone built structures. The earliest evidence for structural remains in Orkney comes from the site of Links House on the island of Stronsay – a Mesolithic camp utilised on a seasonal basis (Lee & Woodward 2010, 141). The features have been

divided into nine groups which represent stake and post built structures including some multi-phase structures. Unpublished radiocarbon dates from a single stakehole suggested to the investigators a very late Mesolithic/early Neolithic date for the site as well as a long history of habitation (Lee & Woodward 2010, 141). As the only form of domestic architecture known which likely predates the construction of Orkney-Cromarty chambered cairns, Links House clearly demonstrates the chronological challenges of maintaining the interpretation that chambered cairns represented "houses for the dead." Other Neolithic timber structures, such as those at Braes of Ha'Breck, and Wideford Hill Settlement, also post-date the initial use of Orkney-Cromarty style chambered cairns.

The reason why archaeological typologies can supress variability is that in order to impose classifications on the physical world similarities and differences are selectively emphasised, sometimes to the detriment of understanding. A consequence of taphonomic processes is that archaeologists generally investigate a fragmentary past biased by the selective survival of certain materials. In the case of Neolithic Orkney, drystone architecture dominates the known forms of construction; therefore, it also dominates the theoretical framework from which different structures are understood. Consequently both the similarities and differences observed in drystone structures are often selectively emphasised. Although the knowledge and skills necessary to build drystone structures were likely introduced to Orkney rather than being an indigenous innovation, the earliest drystone structures still represent novel architecture. Initial use of novel architectural forms can express both more and less overall variability depending on social circumstances. In Orkney, it must be considered that the similarities observed between chambered cairn architecture and settlement architecture are, at least initially, attributable to the limitations in variability of working with drystone construction methods (Barber 2000, 186). Based on the chronologically presented here, the notion that chambered cairn architecture referenced stone settlement architecture needs to be seriously questioned as the earliest chambered cairns pre-date the earliest known stone built settlement architecture by nearly a century and the Maes Howe style chambered cairns seem to either coincide or precede later styles of stone built settlement architecture. Further, as noted by Hodder (1994, 74) referential meaning is not static and objects, places or landscapes can become more or less referential and more or less experiential. Therefore, it does not follow that the employment of similar symbologies in chambered cairns and houses necessarily means that one form of architecture is referencing the other. Rather, they would appear to be the product, not only of the same cosmological and social structuring of space, but also of the constraints of drystone construction methods. The similarities are probably due to the fact that space was understood under the same overarching notions of cosmic and social order which potentially constrained the innovation of varying construction methods. This is not to infer, however, that references between architectural forms did not take place during certain social interactions, just that the similarities between them are not necessarily the product of intentional reference. Though symbology is important in conferring meaning to people, places and objects it is, nevertheless, difficult to infer specific meanings to symbolic manifestations. As spaces representing houses for the dead, chambered cairns could be understood as effectively separating the dead from the living in what Richards (1993b) considered separate landscapes for the living and the dead. As such, the chambered cairns were an extension of the cosmology laden with rituals, taboos and object-mediators present in settlements. However, if chambered cairns, due to chronological concerns, can no longer be considered as representing houses of the dead, than what historic and cosmological developments led to their

construction and the placement of human remains within their interior? The rest of this section tentatively postulates an answer to this question based on the results of this study.

Chambered cairns likely constitute one of the earliest forms of permanent non-domestic architecture. As such, they embody a significant change in the social ordering and conception of space by defining different spaces for broadly different purposes. Orkney-Cromarty chambered cairns comprised a structure in which socially charged human-remains, the dead, were infrequently deposited. The chronological evidence from the Orkney-Cromarty chambered cairns has suggested that they were used for brief spans of time separated by a substantial period of time. In some cases, the evidence can be interpreted, though not proven, to suggest that a singular or short-lived event was responsible for each, chronologically separate, complete deposit of human remains.

Finally, the interrelationship between chambered cairns and settlements cannot be described in terms serving individual households, territorial markers, the development of social hierarchies or even as symbolic references to each other (Fig. 2.9). Rather, the relationship is manifested visually in the archaeological record and represents a complex network of interrelationships between social action, memories and cosmology that is not expressed solely by singular events, but through long term historical processes.

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Figure 2.9 A photograph looking down the passage from the chamber of Cuween chambered cairn. From the chamber looking out of the passage the contemporary chambered cairn at Wideford Hill is visible, demonstrating a more complex set of relationships between Maes Howe chambered cairns, settlements and the wider landscape (image: author)

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3

An island archaeology of Neolithic Ynys Môn (Anglesey)

Gary Robinson

'*Anglesey is an island and this simple fact gives it, like all other islands, a distinctive personality of its own*' (Lynch 1969, 1)

Ynys Môn, the largest island in Wales, is notable for the range and quantity of its Neolithic archaeology. Whilst the archaeological record of the island has been studied in depth, little consideration has been given to Ynys Môn as an island landscape. This chapter, using recent data for changes in sea-level and coastal geomorphology, will demonstrate that during the Early Neolithic Ynys Môn was not an island physically separated from the mainland. It will be argued that the exceptional Neolithic archaeological record of Ynys Môn cannot be explained by tradition approaches within island archaeology, that emphasise biogeography, but that difference between Ynys Môn and the mainland can only be explained through the social creation of difference.

Islands have a long history of study within British Prehistory and hold a particular fascination for archaeologists as they are seen as possessing finite study areas with clearly defined boundaries. The main themes that occur in studies of islands in Britain are: the exotic nature of an island community, their way of life, and their struggle against the elements - isolation, difference and marginality (Fleming 2000: 348). The presence of unusual and distinctive cultural phenomena, and in particular the high concentration of megaliths, has been foremost within the study of islands (Childe 1942; Scarre 2002; Renfrew 1976). In part, this has been explained by preferential preservation, a result of less intensive farming practices. However, such an interpretation does not fully explain this phenomenon.

Attempts have been made to explain such cultural diversity by stressing marginality and insularity. Cultural differences demonstrated in the presence and absence of distinctive material culture and monument types between islands and the mainland have been interpreted as the result of island

societies being cut off from the currents of mainland communication. Such accounts are based upon an environmental determinist logic that presupposes that islands are necessarily isolated, thereby justifying the analogy of 'islands as laboratories' (Evans 1973; 1974). Another approach has been to stress the symbolic significance of islands. In other words, the cultural divergence apparent on some islands is a result of people in the past viewing the perceived inherent marginality of islands as natural symbolic metaphors. This symbolic explanation of island monumentality is very old within archaeological interpretation, having its roots in the work of antiquarians such as Stukeley and Borlase, who viewed islands to be the natural resting places of druidic elders and members of an aristocratic elite (Ashbee 1980; Borlase 1756; Piggott 1950).

Archaeological studies of landscape have dominated the research agenda of Neolithic monumentality since the mid 1990s (Tilley 1994; Cummings & Fowler 2004; Cummings & Pannett 2005; Cummings & Whittle 2003). Anglesey (Welsh: Ynys Môn), with its numerous Neolithic burial monuments has been considered within this debate, with focus placed upon the landscape settings of its monuments (Cummings & Whittle 2004). This work whilst significant has not successfully considered Anglesey as an island. This article, through a detailed consideration of the Neolithic archaeology of Anglesey, aims to explore whether the island is really different from the Neolithic archaeology of the mainland, and if so, whether this difference is inherently the consequence of it being an island.

The present and past island landscapes of Anglesey

Anglesey is the largest Welsh island and is located off the coast of Gwynedd, north-west Wales (Rhind *et al*. 1997). Anglesey is separated from mainland north Wales by the Menai Strait, a narrow (250–700 m at mean low water spring tides (MLWST), north-east to south-west orientated tidal marine channel which extends for 28 km from Fort Belan to Puffin Island (Fig. 3.1). At mean high water spring tides (MHWST) the width extends to between 300 m and 7 km (Roberts *et al*. 2011).

Anglesey is a relatively low-lying island with the only notable upland region being Holyhead Mountain to the south-west which rises to 220 m OD. Anglesey actually comprises a number of islands and islets: the two principal islands of Ynys Môn (Anglesey) and Ynys Lawd (Holy Island) and the smaller islets of Ynys Llanddwyn, Ynys Feurig, Maes y Bugail (West Mouse), Ynysoedd y Moelrhoniaid, (the Skerries), Ynys Badrig (Middle Mouse), Ynys Amlych (East Mouse) and Ynys Seiriol (Priestholm/Puffin Island). This collective group of islands, which for convenience, will be referred to here as Anglesey, stands in marked contrast to the upland massive of Snowdonia, not only in altitude, but through the presence of fertile soils suitable for agriculture, that today and in the past, have played an essential role within the regional economy.

Much of the west coast of Anglesey is dominated by sandy bays and areas of extensive dune formation. The morphology of this coastline is as result of a combination of post glacial Holocene sea-level rise, sediment deposition and historical storm events. Holy Island is tidally separated from the rest of Anglesey between Traeth y Gribin and Four Mile Bridge. The area immediately to the south-east of Four Mile Bridge, incorporating much of the airfield of RAF Valley, is formed of wind and wave deposited sand. Historical maps and accounts of the construction of the airfield suggest that the airfield was constructed onto of an area of wet dune slack and marsh land that had most likely developed within an embayed environment, at or below high spring tides (Fox 1945). An extensive intertidal inlet at Malltraeth cuts into the islands interior. This estuary formed by the Afon Cefni, which flows across

the island from a point north of Llangefni and through a low-lying valley forming the Malltraeth Marsh/Cors Ddyga. The river flowed without restriction through this area until 1810, when an embankment was constructed and the river culverted to exclude the sea's tidal influence, thus, reclaiming much of the area for agriculture. Within Malltraeth Bay, extensive dune systems extend c. 2 km into, and about 1.5 km across, the Malltraeth estuary (May 1980). Malltraeth Bay occupies the largest of the low valleys (traeths) that cross Anglesey from north-east to south-west. Precambrian rocks of the Gwna and Fydlyn groups crop out along the western side of the bay and are overlain by dunes on its eastern side (May 1980; Solera and Baple 2008). Other major dune systems also occur at Newborough Warren and Aberffraw and these have been the subject to detailed study (Bailey *et al*. 2001; Ranwell 1959; Rhind *et al*. 2001). The results of research have demonstrated that the formation of this depositional coastline dates to the last millennium and was primarily the result of extreme storm events (Bailey *et al*. 2001). The point here is that we must be cautious when reconstructing past coastlines as they are, by their very nature, subject to dynamic processes.

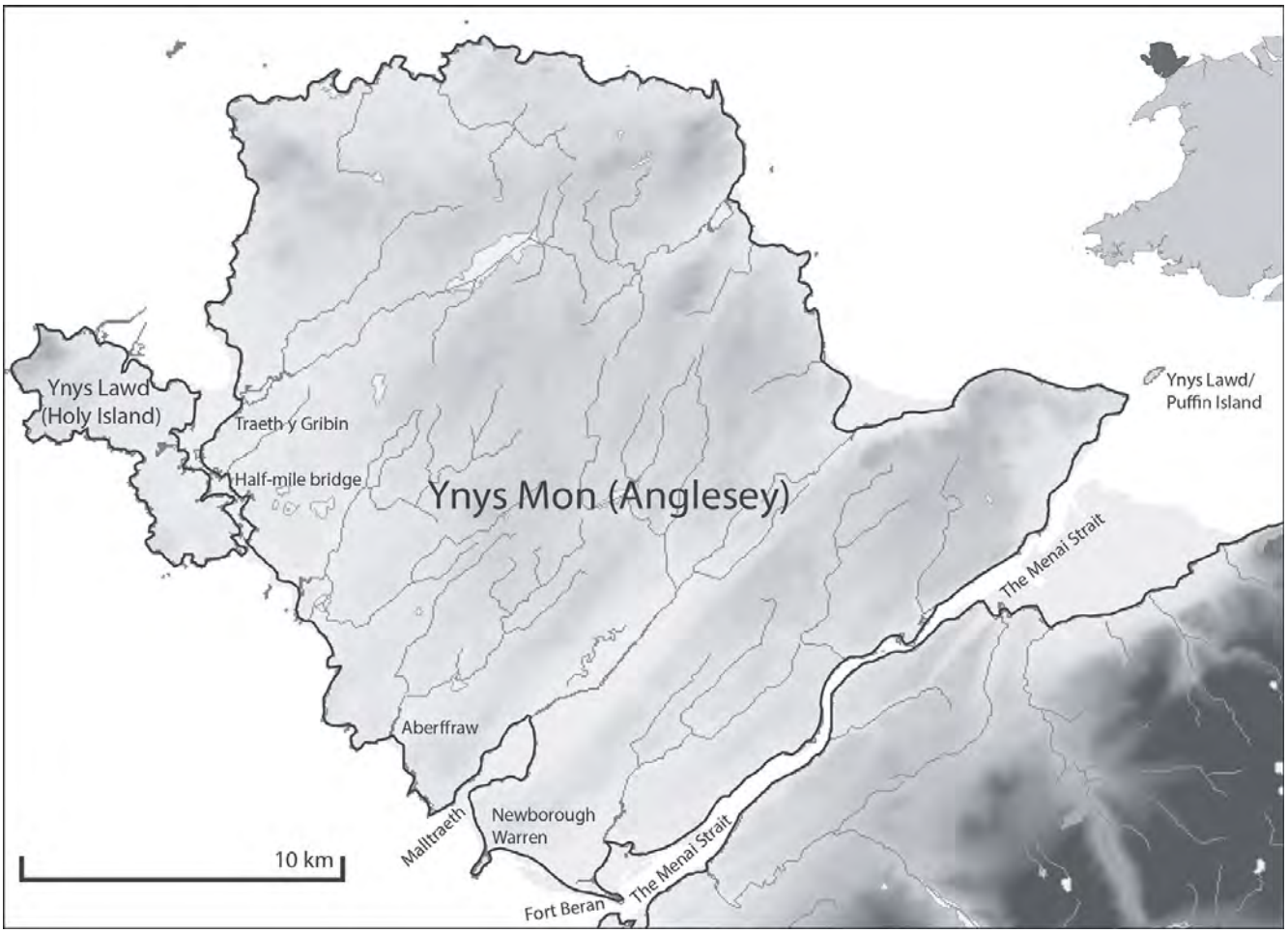

Figure 3.1 The location and configuration of the Isle of Anglesey (Ynys Môn)

The present day coastal configuration of Anglesey is dynamic and cannot be used uncritically as a model for the Neolithic extent of the island. In the majority of studies of the prehistory of Anglesey it has been assumed that the current configuration of the islands' coastline has remained relatively unchanged since the Neolithic (Cummings & Whittle 2004). Whilst this assumption is based upon data collected to construct large-scale models of global sea-level change, the usefulness of such data to the

shorter timescales of interest to archaeologists needs to be called to question (Shennan & Horton 2002; Shennan *et al*. 2002; 2006). In contrast to these large scale models, more recent studies have attempted to explore sea-level change on a regional scale or on a site specific basis, and the results of such studies have clearly demonstrate greater regional variability than previously assumed (Larcombe & Jago 1994; Roberts 2006).

One such study has been conducted within the Menai Strait and provides a detailed account of post-glacial sea-level change in the region (Roberts *et al*. 2011). This model is derived from offshore borings within the north-east Menai Strait where multiple terrestrial sediment units constituting regressive and transgressive overlaps have been identified (Roberts 2006; Roberts *et al*. 2011). Analysis and dating of these deposits combined with detained bathymetric and geophysical survey within the Straits, have allowed a high resolution model of the effect of sea-level change upon Anglesey to be produced (Roberts *et al*. 2011). The quality of data from this single locality is unprecedented and has major implications for how we might interpret the Neolithic archaeology of Anglesey. The Roberts (*et al*. 2011) model demonstrates that during the Mesolithic, Anglesey was not an island but was connected to the mainland by a terrestrial causeway. This causeway was first breached at mean high water spring tide (MHWST), to form an inter-tidal causeway, in the vicinity of Ynys Gored Goch in the Swellies (Fig. 3.2), between 6600 and 6200 cal BC with the window of low tide emergence progressively declining until final submergence occurred sometime between 3800 and 2600 cal BC. However, Roberts (*et al*. 2011) notes that the estimated timing of final submergence of the causeway at low water spring tide (LWST) would have been later in this range rather than earlier.

In summary, the coastal morphology and its relationship to sea-level change is dynamic and complex, but must be taken into account when studying an island (or coastal) landscape. This fact is particularly important if the aim of our research is to understand the landscape context of prehistoric sites. The implication of this for the study of the Neolithic island landscapes of Anglesey is significant because Anglesey was not physically isolated from the mainland during the Earlier Neolithic, the period that encapsulates many of its key Neolithic sites. Whilst separation from the mainland at LWST occurred during the later Neolithic, it would seem likely that the gradual loss of this tidal land bridge would have been remembered within the social memory of the prehistoric islands for many centuries after the final inundation.

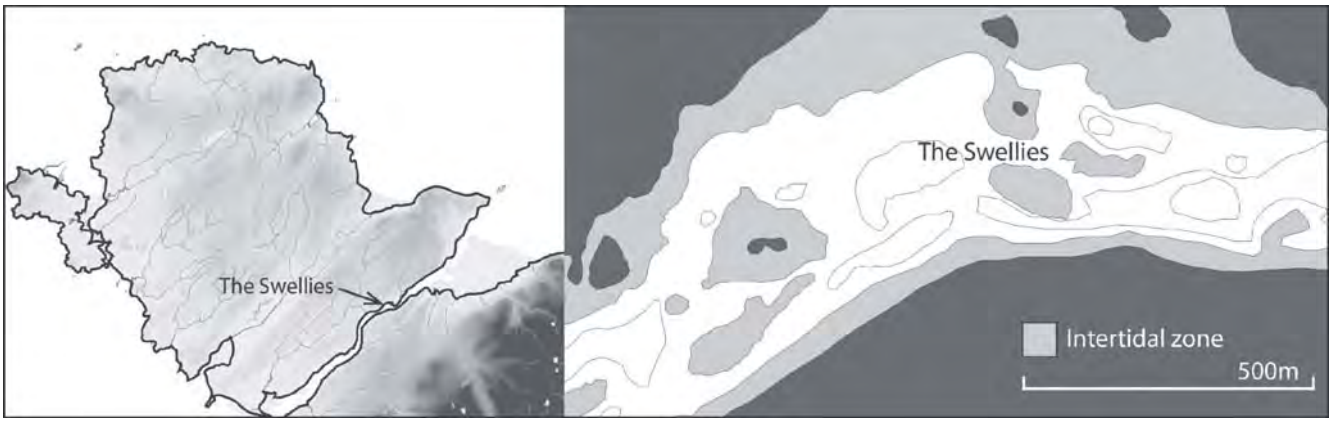

Figure 3.2 The Neolithic causeway, connecting Anglesey to the mainland was located around the area of the Swellies within the Menai Strait

Although Anglesey is today surrounded on all sides by the sea, the Menai Strait has never formed an insurmountable barrier to contact with the Mainland (Lynch 1991, 37). The currents experienced within the Strait are strong and dangerous, but can be overcome through knowledge of the temporal cycles of tides and currents – journeys made during slack tides are unproblematic and relatively easily undertaken. Indeed, large free-flowing rivers, such as the Severn or Thames, would have created a far greater barrier than the Strait. This means that whilst Anglesey may be an island, there is no environmentally determined reason why it should be, or ever have been, culturally isolated from the mainland. If one were to look for a barrier to movement, the mountains of Snowdonia would have been more formidable than the Menai Strait.

If Anglesey was not physically separate from the mainland during the Neolithic it is important to consider what an appropriate scale of analysis for Anglesey should be. Is it the individual island or the islands relationship to the mainland and beyond? In this light it is tempting to suggest that the real unit of archaeological analysis should not be restricted to the island itself, but should also include the landmass of lowland Gwynedd, hemmed in between Snowdonia to the east and the sea to the west. However, although not physically separated from the mainland, the archaeological record of Anglesey has been described as markedly different from that of the mainland (Lynch 1970), if this divergence cannot be explained through isolation, then how best should we approach this intriguing problem?

The Neolithic archaeological record of Anglesey

Discussion within this section will provide an overview the Neolithic archaeological record of the island in order that it might be compared to that of the mainland. The main focus for consideration here will be Neolithic burial monuments - one of the most distinctive and iconic characteristics of the island's later prehistoric archaeological record.

The Historic Environmental Record (HER) and Prehistoric Funerary and Ritual Monuments Survey (Smith 2004a) for Anglesey records a total of 16 extant Neolithic burial monuments and a further 38 unconfirmed, alleged or destroyed sites. Monuments have a general coastal distribution, the majority located within 1–3 km from the shoreline, and few located within the islands' interior. Equally, the monuments are not evenly distributed across the island, being largely restricted to the east and south-west, with particular concentrations around Brynciencyn and Benllech (Smith 2004a). If the distribution of destroyed and alleged sites also taken into consideration the concentrations of monuments observed above is reinforced, demonstrating the importance of particular island landscape locations (Fig. 3.3).

Much attention has been paid to the landscape context of Megaliths on Anglesey with many interesting correlations being observed (Cummings and Whittle 2004). Whilst this work is undoubtedly important, the search for a single structuring principle for the landscape settings of monuments, whilst attractive is problematic (Barrett 2009; Fleming 2005). Whilst general spatial patterns may be identified within the archaeological record the reason for such patterns has not been convincingly demonstrated. It is not my intention in this chapter to consider this important theme beyond a brief overview of monument distribution.

A close correlation has been identified between the distribution of monuments and agriculturally rich soils (Grimes 1945). Whilst this association between burial monuments and agricultural productivity has largely gone out of fashion in Britain similar correlations have been observed between

monuments, houses and agricultural soils in Ireland (Cooney 2000). In light of an early Neolithic house identified in association with Trefignath, this idea needs to be reconsidered (Kenney 2007; 2009; Smith & Lynch 1987). Grimes (1945), argues that these lighter soils would also have been more favourable areas for woodland. It is difficult without detailed archaeo-botanical work to demonstrate whether monuments were originally constructed within woodland clearances, but a number of burial/ritual monuments such as: Pant-y-Saer, Din Dryfol, Lligwy and Trefignath, are constructed overlying bedrock within areas of light agriculturally rich soil. It is possible that these monuments may have been constructed within woodland clearance, a point given weight at Trefignath were pollen analysis demonstrates extensive woodland in surrounding landscape (Greig 1987, 39–44). The high concentration of monuments along the Menai Strait corridor is intriguing as it corresponds with the land bridge discussed above. The possible interpretation of such a distribution pattern will be discussed below.

By contrast, on the mainland, 22 extant monuments are located within the historic (pre-1974) counties of Caernarfonshire, Meirionydd, Flintshire and Conwy (Smith 2003; 2004b). Furthermore there are 41 unconfirmed, alleged and destroyed sites recorded on the mainland with particular concentrations within the Conwy Valley and the Llŷn (Smith 2004b). In terms of numbers of monuments Anglesey has significantly higher concentrations per km^2 than found on the mainland (Fig. 3.4). Such a remarkable concentration does indeed suggest that Anglesey is different to the mainland and fits well with previous interpretations of islands having distinctive archaeological personalities.

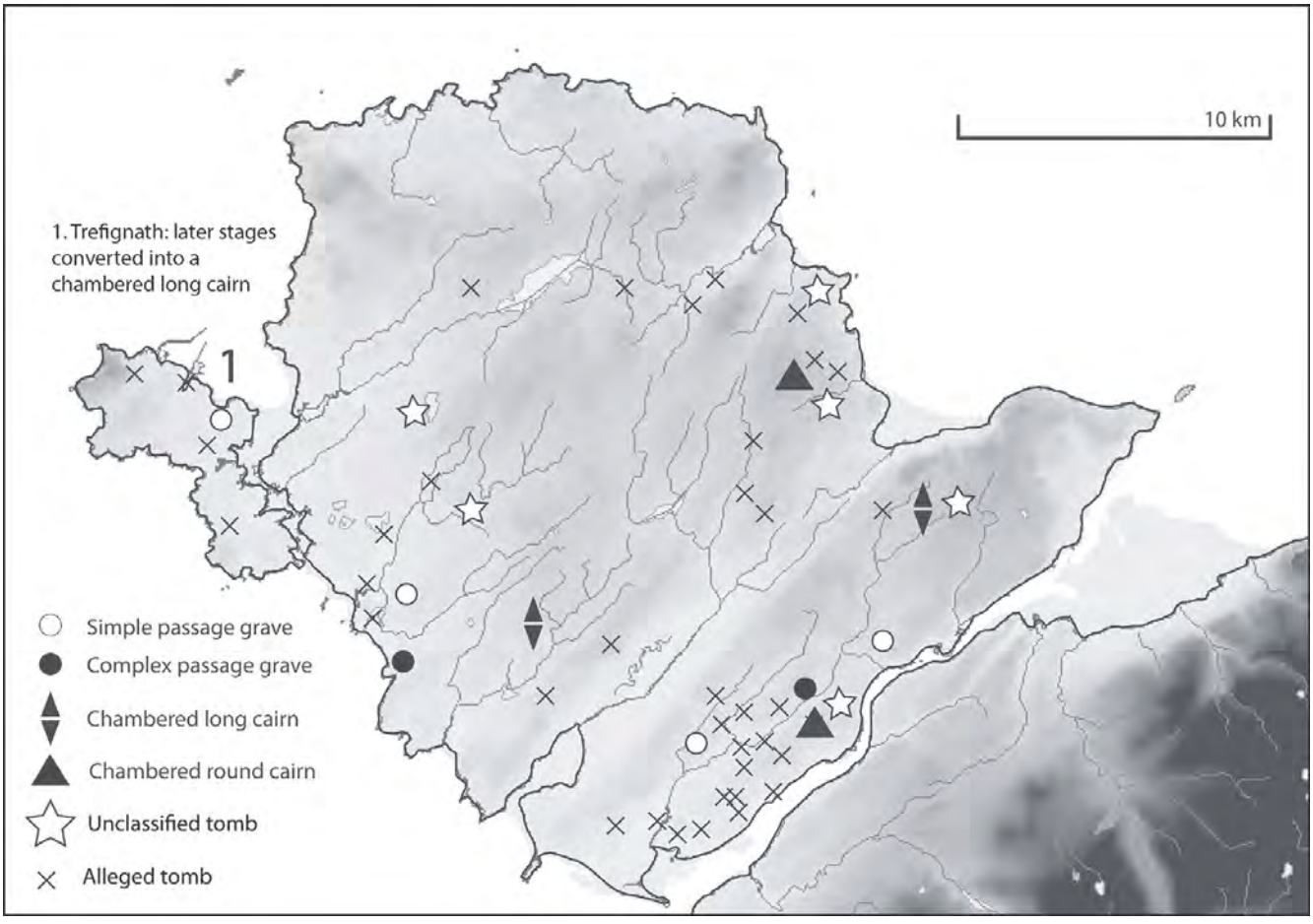

Figure 3.3 The distribution of Neolithic burial monuments on Anglesey

Whilst significantly higher concentrations of monuments are found on Anglesey, are these monuments themselves similar to those found on the mainland or can special island adaptations be identified that might suggest a divergence from mainland influences? In order to address this problem I shall briefly summarise a typological classification for the monuments on Anglesey. However, in doing so we must be aware of the problems of such an approach.

Monument classification

Whilst monument classification and typology are essential to archaeological analysis it is important to recognise that these 'types' are inherently problematic. The classification of monuments is frequently based upon the remains of much disturbed field evidence that may obscure their true form. Equally, typologies are a result of modern systems of classification that may not have been recognised by the monuments' builders. Similarly, many of these monuments appear to have developed over a significant period of time, thus should be thought of in terms of a process of emergence rather than as architectural events. This point is most clearly demonstrated at Trefignath and Din Dryfol (Smith & Lynch 1987) where excavations revealed complex sequences of monument construction and modification. Monument classification based solely on upstanding field evidence is frequently incapable of unpicking the potential complexity of these monuments. Yet while we can be critical of the use of typology to classify Neolithic monuments, it should also be acknowledged that the fact that archaeologists can create spatial and temporal categories does demonstrate that distinctive attributes from such monuments can be recognised. Using a broad brush approach to classification, five monument types can be identified on Anglesey, namely: simple passage graves, complex passage graves, chambered long cairns, chambered round cairns and unclassified. These monuments demonstrate a broad typological range and potentially a wide chronological range of use.

Simple passage graves

Four potential simple passage graves are found on Anglesey that are paralleled with a small group of similar monuments located throughout the Irish Sea Zone (Burenhult 1980; Corcoran 1972; Grimes 1936; Herity 1974; Lynch 1976; Mogey 1941; Ritchie 1970) and should by analogy date to the beginning of the Neolithic (Sheridan 2000). The four Anglesey monuments are all located at prominent locales within the south-east of the island. The first phase of the composite chambered long cairn of Trefignath is formed of a simple, roughly square, chamber comprising of five orthostats and a capstone, entered by a short narrow passage and enclosed within a circular cairn (Smith & Lynch 1987). The monument at Bodowyr (Lynch 1970: 25–28) is a simple polygonal chamber consisting of five orthostats supporting a capstone. Whilst a passage cannot be identified from the upstanding evidence, a low sill-stone across the entrance to the chamber may mark the transition from passage to chamber (Lynch 1970: 28). Early topographical accounts of this site mention that it may once have been enclosed within a cairn (Lewis 1833, 66). At Tŷ Mawr (Baynes 1910/1911, 47–48, Lynch 1970, 28–29) a simple chamber, 1.3 m in height, was constructed from a capstone supported on orthostats. Similar to Bodowyr, Tŷ Mawr also demonstrates evidence for the presence of a sill-stone separating chamber from passage. The last of these simple passage graves is Tŷ Newydd (Lynch 1969a, 159–160; 1970, 28–29). The chamber here is circular and covered by a capstone at one time enclosed by a circular mound or cairn (Lewis 1933, 66; Phillips 1936, 98).

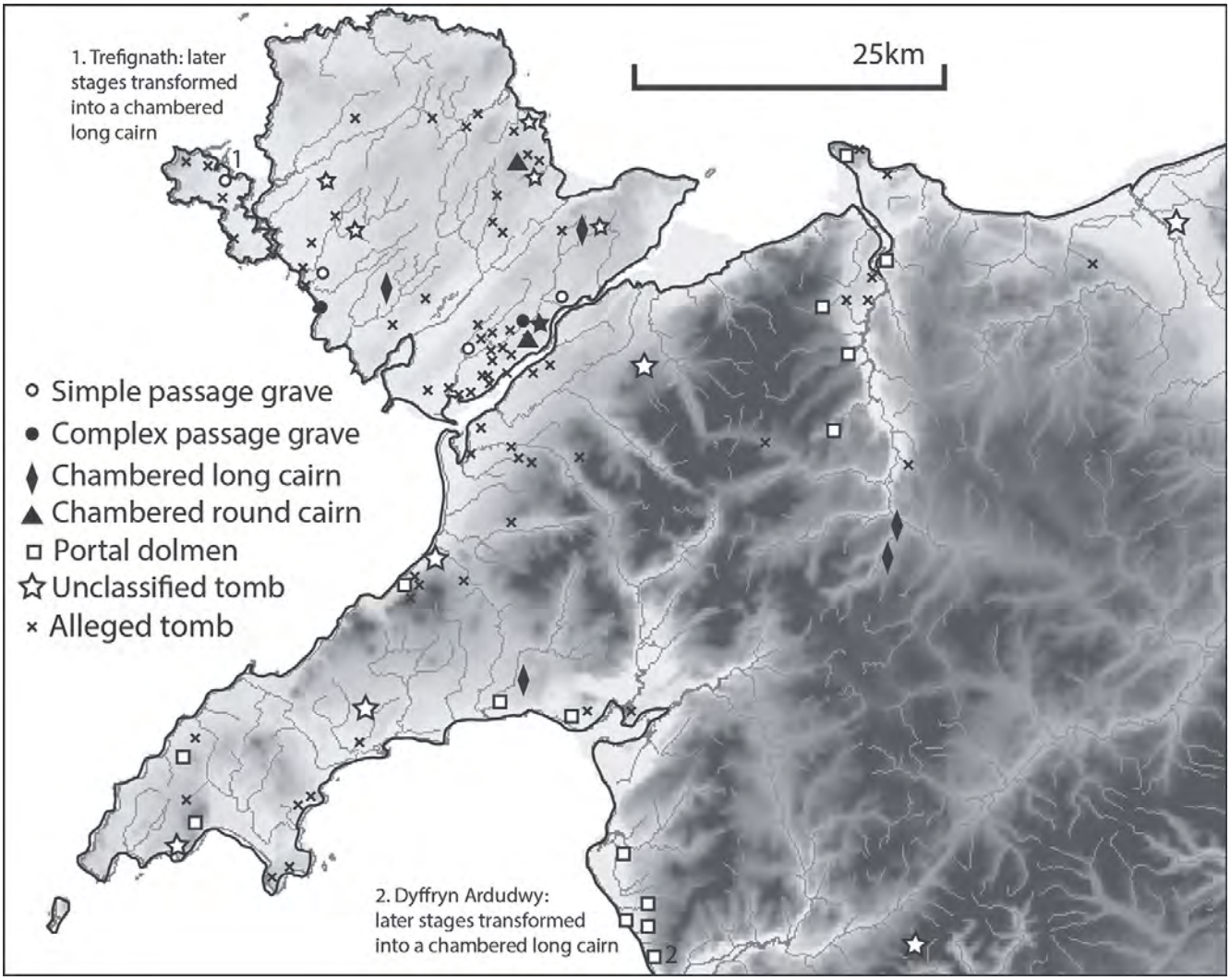

Figure 3.4 The distribution of Neolithic burial monuments within the historic (pre-1974) counties of Anglesey, Caernarfonshire, Meirionydd, Flintshire, & Conwy

Complex passage graves

Two classic passage graves: Barclodiad y Gawres (Powell & Daniel 1956) and Bryn Celli Ddu (Hemp 1930; 1931; Burrow 2010) and a third possible site at Tregarnedd (Lynch pers. comm.) are found on Anglesey. Barclodiad y Gawres is a cruciform passage grave that shares affinities with the Boyne passage graves of Ireland. It comprises a long narrow passage leading to a vaulted central chamber with three lower side chambers. The passage and chambers were covered by a circular mound of earth and stone. Six of the stones that make up the passage and chamber to the monument are decorated with abstract rock art (Lynch 1967; Nash & Stanford 2007; Powell & Daniel 1956). Bryn Celli Ddu is entered via a narrow passage and a clear distinction can be made between the passage and polygonal burial chamber. The passage and chamber are covered by a mound of earth and stone and reverted by a kerb. The constructional sequence of this monument is complex with the earliest feature being a pit demonstrating evidence of fire and containing the ear bones of an adult human, and associated with a stone decorated with abstract rock art (Hemp 1930; 1931; Burrow 2010). The form of these two monuments and their art suggest Irish affinities and a later Neolithic date (Lynch 1967; 1969, 34–43, 55–66). Alongside the Calderstones in Merseyside these complex passage graves are unique within England and Wales (Cowell & Warhurst 1984; Daniel 1950; Nash & Stanford 2009).

Chambered long cairns

Three composite chambered long cairns survive on Anglesey. These monuments, like the simple passage graves, bear similarities to a broad class of monuments found on either side of the Irish Sea, namely the court cairns of Ireland (de Valera 1960) and the Carlingford-Clyde cairns of western Scotland (Scott 1969, 175–222). This group of monuments appear to date from early in the 5th millennium BC but were subject to modification throughout the Early Neolithic (Corcoran 1972; 1973; Noble 2005; 2006; Scott 1969).

The best example of this type of monument is Trefignath (Smith & Lynch 1987, 1–88). The site comprises a long cairn which contains three chambers, each of which was constructed in sequence. The first phase of the monument took the form of a simple passage grave (as described above). This primary phase was superseded by a rectangular terminal chamber within a long mound and with portal stones marking the entrance to the chamber (Smith & Lynch 1987, 19–26). The final phase of the monument's constructional sequence was the addition of a further rectangular chamber, added to the second and thus sealing it. This final phase saw the extension to the cairn and the addition of new portal stones (Smith & Lynch 1987, 26–33). The last two phases of remodelling at Trefignath can be seen as having affinities with a Cotswold-Severn tradition or with an Irish Sea tradition of chambered long cairn construction (Noble 2005; Scott 1969; Smith & Lynch 1987, 29–33). The second monument in this class on Anglesey is disturbed monument of Din Dryfol (Smith & Lynch 1987, 93–132). Similar to Trefignath, excavation has revealed that this monument was constructed in either two or three phases. The first phase comprises a rectangular chamber at the western end of a long cairn with the entrance marked by portal stones. A second chamber was subsequently constructed with a stone façade with probable wooden portal stones. During the final stage of monument construction the cairn and chambers were extended. The final monument is Hendrefor (Lynch 1970, 34). This much ruined site comprises of a tall portal stone behind which is a capstone supported on a stone from the side of a likely chamber wall. Six metres to the west is a group of three fallen stones, possibly the remains of a second chamber. This evidence, combined with nineteenth century accounts of the monument (Lynch 1970, 34) suggest the possibility of this monument being the remains of a long cairn containing one long, or two separate, chambers.

Chambered round cairn

The site of Pant-y-Saer (Williams 1875; Scott 1933) comprises a kidney-shaped cairn containing a square 2.4 m stone chamber quarried from limestone bedrock and sealed by a large capstone. The capstone is raised on orthostats to form a sealed stone box. The quarry hole that forms a good proportion of the chamber may have been the source of the capstone as the bedrock here takes the form of large rectangular slabs of limestone-paving (similar to nearby Lligwy). The chamber is enclosed within a cairn with a façade and forecourt to the north.

The site of Bryn yr Hen Bobl (Hemp 1935) shares characteristics with Pant-y-Saer, wherein it contains a closed stone rectangular chamber fronted by a forecourt and flanked on either side by portal stones and enclosed within a kidney-shaped cairn.

Unclassified

The unclassified group contains a wide range of monument types, some of which cannot be classified

due to their current state of poor preservation or unusual architecture. The site of Lligwy (Baynes 1909) is formed of a large capstone raised over a rock-cut pit and supported on small orthostats. The pit which forms the chamber of this monument is almost 2 m in depth and has been quarried into the limestone bedrock. In this aspect the monument shares similarities with Pant-y-Saer and the quarry pit at Lligwy may also have been the source for the large capstone. The capstone is supported some 50cm above the pit by a number of orthostats and a possible entrance is found to the east of the monument. No evidence of a cairn has been located. On the eastern side of the island the site of Glyn (Baynes 1910/1911) is smaller than Lligwy but shares many of its characteristics. Namely, it is formed of a chamber comprised of large capstone of limestone supported upon a mixture of orthostats and limestone slabs and quarried out to a depth of 1.2 m. Again, no evidence of a covering cairn has been identified.

The site of Plas Newydd (Lynch 1970, 50–51), overlooking the Menai Strait, comprises two stone chambers. The northern and largest chamber comprises a series of orthostats supporting a large capstone. The smaller southern chamber also comprises orthostats, here supporting a second capstone. The southern chamber has been described elsewhere as a passage or as a side chamber to the larger northern chamber (Hemp 1935, 253). However, these interpretations are flawed as access between the two chambers is blocked by a supporting orthostat from the northern chamber. The location of this monument within eighteenth century landscaped parkland might lead one to assume that this monument may have been significantly altered within recent history. For that reason this monument cannot be classified with confidence at this time.

Presaddfed (Stanley 1875; Lynch 1970, 51), located within the central part of the island, like Plas Newydd consists two discrete structures, which whilst lying on the same axis show no evidence of being linked. The northern structure is ruined and the only upstanding evidence is of one large upright and a fallen capstone. The southern structure comprises four uprights supporting a large capstone that demarcates a polygonal chamber. The interpretation of this site as a simple passage grave is problematic. If the northern structure once formed a passageway to the southern chamber, access between the two structures would have been blocked by the northern uprights of the southern chamber. An alternative suggestion is that Presaddfed may represent two simple passage graves constructed side by side (Daniel & Powell 1949). Whilst possible this double passage grave can not be demonstrated with any confidence, especially with the absence of a mound. The last three sites of Perthiduon, Cremlyn and Llanfechell (Lynch 1970, 43, 51) are unclassified due to their current poor state of preservation. Perthiduon survives today as only a capstone and fallen upright, whilst at Cremlyn only one stone survives. The site of Llanfechell survives as a heap of fallen stones but from an early drawing cited by Daniel (Daniel 1950, pl. 3; Skinner 1908), could be interpreted as a portal dolmen. However, the classification of a monument is based solely upon an antiquarian drawing is very problematic (Lynch 1970, 43). Recent excavations at Llanfechell, whilst confirming the identification of the site as a Neolithic monument, help little with its further classification (Smith 2009).

From this brief overview it can be seen that the Neolithic burial monuments on Anglesey are characterised by their architectural diversity, with no single monument type being dominant. Of particular significance is the absence of portal dolmens, a monument type common on the mainland. Of the 22 extant monuments from the HER located within the historic counties of Caernarfonshire, Meirionydd, Fflintshire and Conwy, 13 are classified as portal dolmens. Of the remainder one is

classified as a Cotswold Severn Tomb, one as a probable Cotswold Severn tomb, three as long cairns and four as unclassified (Lynch 1999; Smith 2003).

Island identities

The marked differences, both in number and diversity, between the Neolithic burial monuments of Anglesey and those of the mainland suggest that Anglesey cannot be understood solely within the context of a larger regional study area. Undoubtedly Anglesey forms a discrete unit of analysis, and this suggests that the assumption of it having a unique island identity is correct. We need to look for a solution to cultural difference which views difference as the product of active social choices. Two contrasting and yet interrelated forms of island identity may be identified: situated and connected. Situated identity is associated with where one lives and how such a community defines itself. An important element of situated identity is drawing distinctions between insiders and others, expressed through distinctive cultural traits which might include material culture and monumentality. In contrast, connected identity is associated with who one has connections with via trade and exchange. This form of identity is also largely played out through material culture. Distinguishing between these contrasting forms of identity within the archaeological record is problematic and one would expect a dynamic interplay between both concepts through time. However, the diversity of monuments present on Anglesey as opposed to the mainland does suggest a constructed difference rather than one led by environmental determinism.

Such a social constructionalist model stresses that the topography of an island does not necessarily fashion the identity of islanders, but rather that island societies create islands in the process of forming local identity. In other words, insularity rather than being a biogeographical prerequisite was in fact a social strategy intentionally employed by island communities to create a cultural gap between themselves and others, thereby emphasising local identity through constructed difference. The diversity of monuments found on Anglesey, as compared to the mainland, can be seen as a strategy to construct a particular form of island identity. In this light it is tempting to interpret the high concentrations of monuments along the Menai Strait corridor as a cultural buffer-zone between the island and the mainland, especially as this area also marks the position of the intertidal causeway (Roberts *et al*. 2011).

However, as argued above, Anglesey was at no time during the Neolithic isolated from mainland interaction. Evidence of interaction both with Gwynedd and the rest of mainland Britain and Ireland can be demonstrated through similarities in monument forms and material culture. The complex passage graves draw close comparison with similar monuments outside of the region, particularly with Ireland, whilst the composite chambered long cairns of Trefignath and Din Dryfol share similarities to the court cairns of Ireland and the Carlingford-Clyde cairns of south-west Scotland. Similarly, the simple passage graves of Trefignath and Bodowyr can be closely compared to a group of early Neolithic monuments located along either side of the Irish Sea Zone.

Neolithic material culture from Anglesey also suggests contact networks, both in the sources of stone axes and the presence of regional and national styles of pottery. Stone axes and flaked stone tools found on Anglesey can be attributed to a number of regional and national production sources (Clough and Cummins 1988, 246–247; Lynch 1991, 38–385). These sources include: Graig Llwyd, Penmaenmawr (Group VII), Mynydd Rhiw, Llŷn (Group XXI), south-west Wales (Group VIII) and

Langdale, Cumbria (Group VI). The majority of these sourced stone artefacts are stray finds, but a small number are from excavations such as Bryn yr Hen Bobl (Hemp 1935; Lynch 1991, 384).

The pre-monument ground surface at Trefignath produced Early Neolithic Irish Sea Wares (Smith & Lynch 1987, 10–14, fig. 1), represented by a series of undecorated open shouldered bowls and plain hemispherical cups (Lynch & Smith 1987, 75, fig. 35). Irish Sea Wares represent a Welsh variant of Early Neolithic round-bottomed pottery and demonstrate close affinities to contemporary Irish forms which have frequently been found associated with early Neolithic burial monuments across Wales (Lynch 1976; 2001, 34–35). This pottery may be classed as a sub-group of a wider group of pottery found across Britain and Ireland known generically as Carinated Bowl pottery or Grimston-Lyles Hill ware (Smith & Lynch 1987, 119; Sheridan 2007, 458–463). Similar pottery forms were also identified from Din Dryfol (Smith & Lynch 1987) where fabric analysis demonstrates local manufacture (Jenkins 1987, 60–73). Irish Sea Wares were found within postholes and pits associated with an Early Neolithic House at Parc Cybi, Holyhead (Kenney 2007; 2009; Kenney & McGuiness pers. comm.). This domestic context demonstrates close comparison to similar pottery identified from early Neolithic houses at Llandegai, Bangor (Kenney 2008; Lynch & Musson 2001).

Peterborough Ware was found in association with Neolithic burial monuments at Bryn y Hen Bobl (Lynch 1969b; 1970; 1991, 334) and with the final blocking of the chamber at Trefignath (Smith & Lynch 1987). At Capel Eithin and Llanbedrgoch, Peterborough Ware has been found in association with Neolithic pits (Lynch 1991: 341; Redknap 1996; 2000; 2004). Fengate pottery has been identified at Castell Bryn Gwyn (Lynch 1991, 101; Wainwright 1962). Substantial quantities of Grooved Ware have come from Neolithic settlement contexts at Capel Eithin, Gaerwen and from the burial monuments of Lligwy and Trefignath (Lynch 1991, 341; Lynch & Smith 1987) and from recent excavations carried out by Gwynedd Archaeological Trust at Penrhyndeudraeth (Lynch pers. comm.).

Whilst the diversity and number of burial monuments on Anglesey suggest situated identity, the evidence based upon material culture, and analogies between the monuments from Anglesey and the wider world suggest connected identity. Connected identity is important here as it stresses that the sea, rather than being liminal and acting as a barrier to communication, also holds the potential of acting as a cultural conduit through which connected identities are formed. Such an approach emphasises that island communities should not be viewed as internalised worlds because external maritime connections can equally create a sense of unity between seemingly disparate groups. Obviously the degree to which maritime and terrestrial trade and exchange networks can be demonstrated will have a major impact in defining the level of insularity experienced on Anglesey. Such networks need to be taken into account and we need to consider how and by whom they were used (Davies 1946; Garrow & Sturt 2011). In identifying such networks, Anglesey can no longer be considered as inherently insular. However, in stressing the failures of the development-in-isolation model we should be careful not to assume that the island was therefore fully integrated with mainland communities, for the degree of isolation experienced by islanders may have varied greatly through time.

Whilst Anglesey is not an island, in the commonly understood sense of the term, during the Neolithic it demonstrates many of the qualities associated with islands. However, the distinctive traits of the archaeological record of Anglesey are the product of social choices by prehistoric islanders that set them apart from neighbouring mainland communities to construct a unique island identity.

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4

Uniformity and uniqueness: the extraordinary Scillonian entrance graves

Laurie Waite

The Isles of Scilly have a remarkable and undervalued resource of almost 100 chambered burial-ritual monuments; some are in good condition, many are ruinous, while a handful survives as documentary evidence. All surviving examples display close architectural affinities and the ratio of monuments to land mass is the highest density in Neolithic Europe. Compared with the variety of Neolithic monuments found on other islands throughout the Atlantic seaboard, the Isles of Scilly assemblage is unique in a number of ways; the entrance graves are the only monuments with accessible chambers to be found on the Scillies, and although there are a small number of similar ones in the Penwith peninsula of Cornwall, elsewhere the links suggested are tenuous.

The Scillonian entrance grave tradition displays possible hybridization of several Neolithic types but is closest to a passage grave in that the chamber is housed within a near circular mound of earth and rubble, contained by stone kerbing. Unlike passage graves though, the rectangular chambers of entrance graves have little or no differentiation between them and a connecting passage or entrance, hence the name given to them. Where found, chamber deposition consists largely of cremated bone and urns of an Early to Middle Bronze Age date.

This chapter will explore the entrance graves for nuances in architecture and landscape position and address the issue of a single ubiquitous monument tradition. Furthermore, at certain sites there are other features that suggest earlier burial activity which, along with architectural idiosyncrasies could link them together and support a concept of a group of pioneer monuments. Fundamentally, does what we know about entrance graves suggest they

are the product of cultural isolation or the result a successful, established and stable community?

An extraordinarily concentrated group of distinctive chambered tombs, commonly termed entrance graves, lie on the upper reaches of a small huddle of islands 45 km off the south-west tip of England (Fig. 4.1). Today five of the granite formed islands remain inhabited, with a proliferation of smaller uninhabited ones, all enjoying an exceptionally mild climate which gives a flora and fauna assemblage that is quite different to mainland Britain. The highest point in the land mass that makes up this archipelago is just 56m AOD, providing huge open vistas and wide horizons of sea and sky. Everywhere the sea abounds, enveloping these tiny islands that seem to skim the Atlantic Ocean. The high density of chambered tombs, five per square kilometre today, and all of the same architectural type makes the phenomenon a unique resource to study.

In terms of architecture an entrance grave is a monument that houses a stone built, rectangular chamber that opens directly out through the side of a circular earth and rubble filled cairn; a revetment wall of stone kerbing surrounds the mound and provides structural support. The total number of entrance graves has been difficult to assess because of their much ruined state, consequently Hencken noted at least 45 (1932), Daniel over 50 (1950), Robinson 84 (2007a), Thomas 87 (1985), Ratcliffe 94 (1989), and English Heritage 106; the last four estimates include destroyed and alleged sites. Around 80 extant monuments survive today (though Robinson records 71 (2007a) and Ratcliffe 79 (1989)) in various states of preservation, so that in a number of cases their inclusion is based on meagre architectural remnants. Many have been robbed of their chamber contents or plundered for stone which has left only traces of a former structure (Fig. 4.2).

Their close parallels in form make studying the nuances of design and construction extremely worthwhile in order to establish the important traits that they share (e.g. Ashbee 1974, 79). It follows from this that any significant differences recognized between them could also facilitate an understanding of constructional sequence.

Architecture is but one consideration as even a glance at a map showing the distribution of entrance graves across the Isles of Scilly will show some distinct patterns and clusters; landscape setting and orientation of the chambers appears to further differentiate some of the entrance graves.

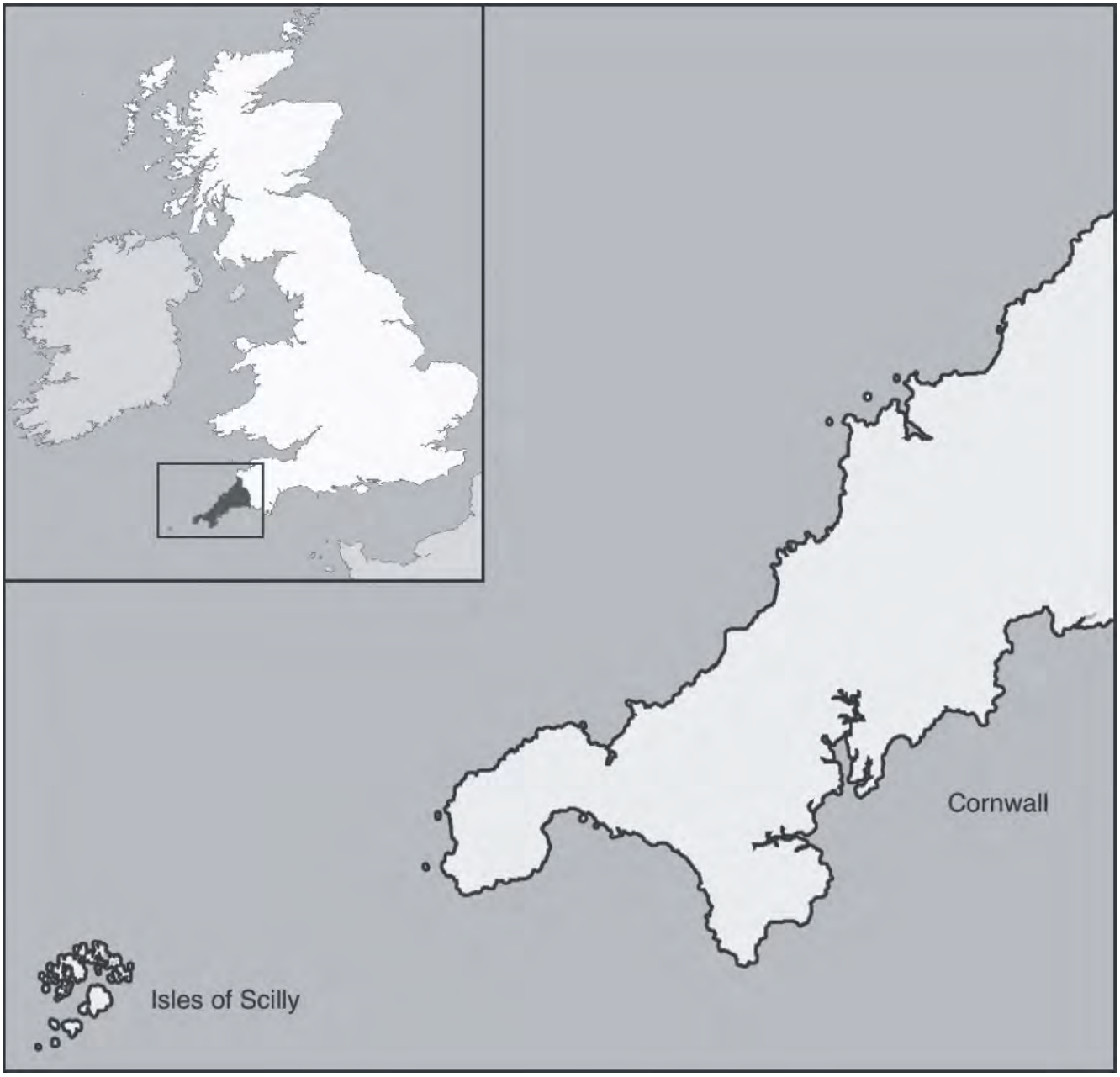

Figure 4.1 Isles of Scilly

Figure 4.2 Cruther's Hill B, St Martin's

Chronology is a difficult subject to tackle for Scillonian entrance graves because even though the megalithic architecture of the monuments belongs very much to the Neolithic (Joussaume 1988, 80), the majority of sites excavated have yielded Bronze Age deposition, predominantly cremation urns (e.g. Knackyboy Cairn, St Martin's). These deposits, in the form of bi-conical flat-based urns and dating to around the period of the Early Bronze Age (c. 2200–1600 BC), have been found in substantial quantities and occasionally stacked in rows two-high (Hencken 1932, 28–9). This has placed a stumbling block to the way entrance graves have been dated. Furthermore, up until this year there are no published radiocarbon dates available. The problem is that it is generally acknowledged that the cremation urns form part of a secondary deposition process, a result of later re-use of the chambers (Ratcliffe 1989, 42); however there is evidence of earlier underlying deposits at some of the sites that have been excavated which indicates a prior phase of activity in the chambers, for example Obadiah's Barrow, Gugh (Ashbee 1974, 110–111). These pit deposits could yet reveal when monument

construction was first carried out.

The absence of radiocarbon dates from a primary phase is problematic, but there is, in some cases, limited evidence obtained from fragments of round based Neolithic pottery found in the chamber or entrance areas, as at Obadiah's Barrow (Hencken 1932, 24), Bant's Cairn, St Mary's and North Hill, Samson (Robinson 2007a, 140). The high acidity of the soils in the Scillies does not allow well for preserving un-burnt bone and so, from the fifteen sites that have been excavated, only one contained a significant quantity of human bone (Hencken 1933, 23).

Setting the scene: the palaeoenvironment

Neolithic evidence for these islands is represented mainly by death and burial; evidence for occupation is limited. Data obtained from a number of palynological studies have suggested that widespread woodland was followed by a marked clearance (Thomas 1985, 116). A pollen sampling programme on Higher Moors, St Mary's obtained a sequence to a depth of 0.75 m. The results indicated that there was a substantial and continual decline in oak (*Quercus*) and birch (*Betula*) woodland after 4000 cal BC until around 1300 cal BC when, at this point there began a period of birch regeneration together with grass-bracken cover (Thomas 1985, 116). Flint adzes found on the islands would have been the essential tools for tree felling and timber working. Elsewhere, occupation sites have been identified at various points around the islands, usually on sea-eroded shorelines. At Bryher for example, on the coastline below Samson Hill, a Neolithic hut floor with flint and pot fragments was discovered; nearby, transverse arrowheads and thumbnail scrapers have also been found. The only large fauna indigenous to Scilly before 2000 cal BC were red deer (*Cervus elaphus*) and grey seal (*Halichoerus grypus*) (Thomas 1985, 78) which, even though fish and molluscs were exploited as well, is nevertheless a surprisingly limited range. Based on the still limited but significant evidence for occupation, the conception that the Isles of Scilly were purely islands for the dead (Mumford 1967, 41) can be considered a complete misnomer.

One intriguing aspect to a study of prehistory on the Isles of Scilly is the major affect that sea-level change has had on the islands, through post-glacial isostatic rebound to the north along with a eustatic sea-level rise (Thomas 1985, 18). In the Late Devensian (OI Stage 2), recent evidence suggests that the Irish Sea Glacier reached as far south as Scilly (Hiemstra *et al*. 2006) and a land bridge existed between the islands and Cornwall which lasted until around 10,000 years ago when global temperatures separated them. The process of submergence continues today and a recent study by the Environment Agency predicts, at the present rate, another sea-level rise of 0.57 m by 2050 (Johns & Mulville 2007, 37). Since Neolithic times it has been estimated that a declining land mass has consequently altered Mean Sea Levels (MSL), which are estimated to be between around 3 m and 17 m higher today (Ratcliffe & Straker 1997, 75; Thomas 1985, 21).

There is a large disparity between these estimates, so for this chapter I have assumed a relatively conservative level of 5 m deviation (Fig. 4.3) based on more recent analysis which has criticised Thomas's earlier exaggerative assessment of 17 m (Ratcliffe & Straker 1997; Robinson 2007a, 37). Also taken into account are observations by O. G. S. Crawford who traced the course of many submerged stone walls (Fig. 4.4) around the islands and recorded evidence of occupation at around 4 m below MSL (Crawford 1927, 10). It seems inconceivable that these stone walls would have been constructed proximate to the high tide line and to be frequently subjected to damage from storms.

Therefore I have allowed a minimal margin and show the Scilly land mass at –5 m below MSL, at a provisional date of 2500 cal BC. Even at this level of sea change the islands would have been a very different place, changing the present six larger islands into one large land mass with the island of St Agnes still separated. A large central plain existed that underwent a continuous phase of de-forestation during the Neolithic, which in Figure 4.4, would replace the area of sea from the left hand side to the centre of the photograph.

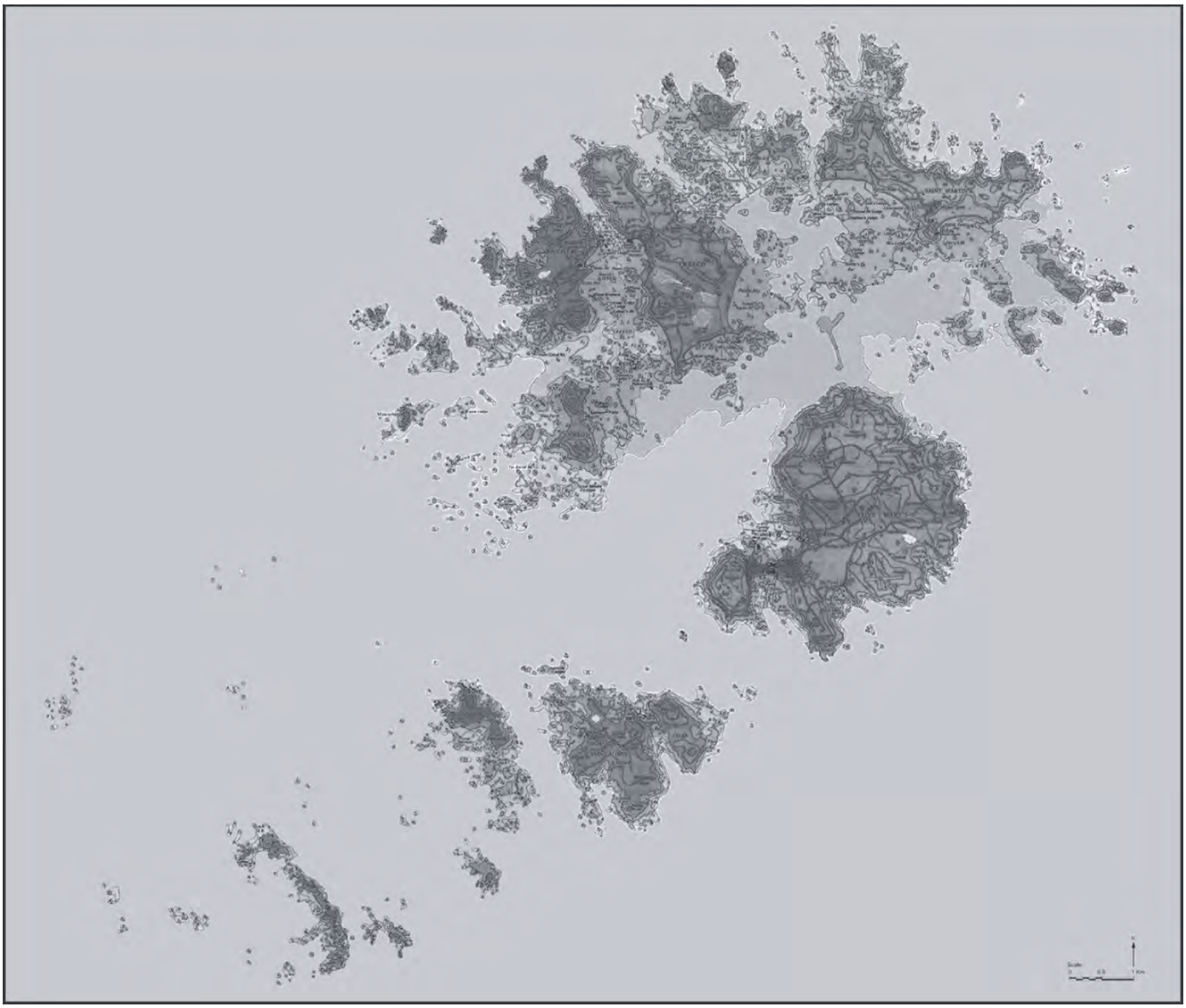

Figure 4.3 Isles of Scilly at –5 m below present day mean sea-level, showing the ancient land mass and coastline of the Neolithic

Historical review

Entrance graves have been variously termed since first being written of some 250 years ago. Burial-ritual monuments or chambered tombs on the Scillies were first recorded in June 1752 when William Borlase, rector of Cornish parish Ludgvan, sailed around the islands, possibly with the aid of Collins' sea chart. He walked over and studied the then six inhabited islands that included Samson, as well as other smaller uninhabited islands. His illustrations are the earliest known that depict Scillonian entrance graves. Using the terminology of the day, he described monuments with visible chambers as Caves or

Barrows while. alternatively, cairns and mounds he termed as stone or sepulchral Burrows if there was no apparent chamber (Borlase 1756, 14). He was a contemporary of, and in contact with, William Stukeley and, symptomatic of their time, some of Borlase's conclusions betrayed a preoccupation with Druids. However, Borlase was far removed from the average antiquarian of his day and the quality of his archaeological fieldwork is considered outstanding (Ashbee 1974, 23). He carefully recorded his observations initially in the form of a letter to the Dean of Exeter, as the islands came under the Dean's jurisdiction. Borlase noted the different cists, cairns and chambered monuments, known locally as Giant's Graves, and decided to open the chambers of two of them on Buzza Hill, St Mary's. Employing soldiers from the local garrison, he examined the contents and found in the large chamber a deposit of greasy and pungent smelling earth but no traces of bone or urns. From his description he obviously thought these were putrid human remains (Ashbee 1974, 21). In the middle of the chamber was a pit, again full of 'earth'. A second monument 13 m north of the first was smaller but held similar deposits. He again found a central pit beneath the chamber floor with earth deposits of different colours (Borlase 1756, 15).

Interestingly, the night following the opening of the monuments there was a terrible storm that inflicted much damage on the islands. This prompted many islanders to question him as to whether he had offended the Giants who were buried in the graves he had disturbed. Even when he travelled to Bryher the next day, he found that he was already known and was once more quizzed, albeit politely. The islanders believed that, because the length of the chambers comfortably surpassed even the tallest of people, they must have belonged to a separate race of giant people. Borlase realised that the chambers were disproportionate for single burials and took this to mean that they were designed for multi-occupancy though he failed to persuade the locals (Borlase 1756, 16). Robinson concludes that Borlase was evidently preoccupied with a search for tin; he was well aware of the abundant tin mines in Cornwall and believed Scilly to be the location for the *Cassiterides* (2007a, 8). Cassiterides, or Tin Islands is based on ancient Greek references to a fabled place somewhere north-west of Iberia; however, no evidence for tin has ever been found on Scilly, though the myth persists.

Figure 4.4 Samson Flats showing extensive submerged field walls which are visible at low tide

Borlase very usefully wrote down observations on the state of monuments but also was the first to realise that sea-levels had changed. He could see field walls on Samson that stretched down to the coast and became engulfed by the high tide. He saw the same phenomenon repeated on St Martin's and came to the conclusion that the islands "were once one continued tract of land" (Borlase 1756, 26). Walking over the sand bar to Gugh from St Agnes he mentions that it was covered only by certain high tides; we can compare this to today when it is submerged by all high water.

William Copeland Borlase, great grandson of Dr William Borlase, excavated many monuments in Cornwall in the second half of the 19th century, among them Tregiffian, Brane and Ballowall which have architectural affiliations with the Scillonian type. W. C. Borlase recognised an association between the chambered tumuli of Scilly and Penwith, as he called them and also drew attention to one at Harristown in County Waterford, Ireland as being an example worthy of close comparison. He considered the proximity to the sea of these monuments and others in coastal regions around the British Isles and concluded that they might be the work of marauding Danes, or piratical predecessors from the same country (W. C. Borlase 1872, 70).

It was almost 150 years after William Borlase had recorded the first detailed excavation of a chambered monument on Scilly, before the next methodical survey took place. George Bonsor excavated three sites between 1899 and 1901, Bant's Carn and Great Tomb on Porth Hellick Down, the largest examples on St Mary's; the third was Obadiah's Barrow on Gugh (Fig. 4.5), so named after

Obadiah Hicks with whom Bonsor lodged on the island (Hencken 1933, 20). As a retired engineer, Bonsor used his skills to plan some other monuments in a thorough study but he failed to publish his findings. However he did keep all his notes, drawings and artefacts from the excavations and some 20 years later his friend Thomas Kendrick, representing the British Museum, managed to obtain part of the archive (Ashbee 1976, 11). Following the death of Bonsor the British Museum, through Reginald Smith, was successful in acquiring further plans and manuscripts for Bant's Carn which were subsequently published by Hugh O'Neill Hencken (Hencken 1933, 13).

While Bonsor's notes were being pursued, O. G. S. Crawford visited Scilly in 1926, in the company of Alexander Gibson (whose family have maintained a photographic archive of the islands since the 1850s), who took a boat to Samson and on an outgoing tide began to walk over the sand flats to Tresco. He had already spotted what appeared to be submerged field walls two days earlier and now determined to see how far he could walk out on a low spring tide next to the walls. He made it to Tresco, wet to his knees and had run out of any trace of wall at about the half-way point, satisfied that before him lay tangible proof of the remains of prehistoric life in a former larger and single land mass. Crawford quoted from the 3rd century AD Roman writer Solinus who described 'A tempestuous channel separates the island of Silura from the coast occupied by the British tribe of the Dumnonii' (Crawford 1927, 11–12). Other Roman sources also refer to the Isles of Scilly in the singular. Since then walls, hut foundations and burials cists have been observed below the high water mark at various locations around the islands (Ashbee 1974, 56–61).

Hencken carried out his own excavation in 1930 at North Hill 'E', Samson (NGR SV 8772 1309) but although the dimensions of the chamber were impressive and in good condition, the results were disappointing because of the disturbed nature of the deposits and general lack of finds (Hencken 1933, 27). It was Hencken who made the first serious study of the chambered monuments and attempted a classification based on the architectural traits. He was the first to employ the term 'entrance grave'. This term described the lack of any connecting passage to a chamber in the majority of monuments (Hencken 1932, 26); they simply opened into a chamber from the side of the mound. He more commonly referred to them as 'covered galleries' as being a more apt description but excluded two chambered monuments, Bant's Carn and Great Tomb, Porth Hellick which he singled out as belonging to the passage grave group because they featured an outer collar to the mound and a passage which changed direction (Hencken 1932, 20). He identified 41 covered galleries and two passage graves across the islands and estimated that another 18 could well have had chambers (Hencken 1932, 33). His conclusion was that the tombs represented 'a provincial extension of the great megalithic culture of Brittany' based on passage grave analogies and pottery similarities (Hencken 1932, 28–29).

Figure 4.5 Obadiah's Barrow, Gugh

Following Hencken, Glyn Daniel carried out fieldwork in 1936 and 1946, concentrating on the chambered tombs of the Scillies as part of his book on the subject covering England and Wales (Daniel 1950). He further extended Hencken's tentative work on classification of the tombs and introduced his own numeration for all the sites. He proposed that 'all the burial chambers in this Scilly group are to be classed as undifferentiated passage graves or entrance graves' and that the morphology for them could be divided into four sub-categories (Daniel 1950, 64).

During World War II, one of the more meticulous Scilly excavations took place when St Mary's airfield was required to be extended, necessitating the destruction of a chamber tomb on Salakee Down. W. F. ('Peter') Grimes carried out the excavation for the Ministry of Works in 1942, finding an almost complete set of peristaliths, or kerbing around the mound, but the chamber was largely destroyed and with few contents (Grimes 1960). However, Grimes discovered a clear change of angle from chamber to passage, similar to the Great Tomb on Porth Hellick Down, consequently he likened his site to a passage grave (1960, 177–178).

Since 1945, excavations have occurred at four entrance grave sites and Bryan O'Neil instigated three of them (Ashbee 1974, 33). O'Neil was Chief Inspector of Ancient Monuments and became involved there in 1948 with perhaps the most notable entrance grave site, that of Knackyboy Cairn. It

was remarkable for the quantity of finds; the amount of pottery was estimated at 22 urns together with bronze artefacts and glass beads (O'Neil 1952).

Three major pieces of written work have been produced in more recent years that have advanced the study of entrance graves and the prehistoric environment on the Isles of Scilly more than any before. In 1974 Paul Ashbee's seminal work Ancient Scilly synthesised his fieldwork on Scilly over many years and increased our understanding of the extant entrance graves on the islands. Ashbee also led the excavation in 1970 at Bant's Carn on St Mary's but besides this restorative work, he addressed the issue of classification by examining the morphology of chambered tombs in a much more thorough way than had been attempted before. He compared diameters, orientation, chamber plan variations, distribution and building methods (Ashbee 1974). Second is Charles Thomas's pioneering work *Exploration of a Drowned Landscap*e (1985) which introduced a strong scientific element including an extensive palaeoenvironmental element to the Scilly landscape.

Finally, in 2007, Gary Robinson's *The Prehistoric Landscape of Scilly* was published, which presented a welcome update that drew the prehistoric archive together into an extensive body of work and proposed a chronological sequence of activity, in particular, at Knackyboy Cairn.

Methodology

For this chapter, 67 sites on six islands were recorded and assessed following a series of walk-over surveys. As a result, information gathered has been used to re-evaluate this group of monuments. The data assembled included landscape positioning of each monument, detailed chamber dimensions and orientation, mound and kerbing measurements, and any special characteristics. Collating the evidence that was gained from each site enabled a more objective analysis to be made of the shared components in monument construction. A small number of sites were very difficult to assess because of their ruined state and therefore not possible to categorise.

One monument on Tresco attracted particular interest and was subsequently surveyed in plan. The reason for this was because it was thought that a second outer ring of kerbing existed, albeit incomplete. It is a trait that is known or suggested at six other sites on the Scillies and some writers have previously referred to them separately as passage graves because there is an obvious differentiation between chamber and passage (Hencken 1932, 20; Daniel 1950, 64). The resulting survey plan on Tregarthen Hill, Tresco confirmed the status of an outer kerb and thus one extra monument may now be added to the comparatively small number that have this feature.

Aside from the architecture of the monuments, another key area of investigation for this chapter was to examine the distribution patterns of entrance graves that form nucleated clusters and linear groups on some of the islands. The clusters may suggest that a primary monument attracted smaller satellite monuments at a later date, which appear to be derivative in type. It will be argued that there is tangible evidence to support this view.

The first element of this study for discussion was be the morphology of the monuments and this included their architectural traits, landscape setting, orientation and their spatial distribution.

Monument architecture

Generally, the two basic constituents in the morphology of an entrance grave are the chamber and cairn

mound: a rectangular structure within a circle of stone. Granite boulders of various sizes, readily available across the islands, were used for the construction. The methods adopted were usually to build the side chamber walls with masonry, i.e. in courses. A typical cairn is near circular in plan and contains a mound of earth and rubble stone, which is then revetted with a stone kerbing; a gap in the side of the mound opens directly into a chamber. These elements clearly identify the generic type of entrance grave on Scilly and separate them from other forms of monument such as closed cists and cairns that are without any form of opening. Entrance graves are the only monument on Scilly that was designed to have an accessible and therefore re-useable chamber.

Mounds

Data obtained from 67 sites surveyed confirmed that 40 were entrance graves or they revealed significant traits that justified their inclusion. Diameters of these 40 mounds measured from 5.5 m to 17.0 m, averaging 8.5 m; eight of the total had oval mounds but only one of these with a deviation of more than 1 m in diameter. Mound heights varied between about 0.7 m to 1.7 m but because of weathering very few mounds were complete and it is a matter for conjecture how the apex of each mound was finished; today no mound extends to cover the entire chamber roofing capstones, though the example of Innisidgen Carn suggests they could have done initially (Fig. 4.6). Furthermore, at the Great Tomb on Porth Hellick Down, George Bonsor covered all the capstones when reconstructing the monument, believing this to have been the original appearance. This is supported by photographic evidence taken during the excavation which shows the sides of the mound higher than the chamber roofing (Fig. 4.7).

Bonsor also surveyed the nearby Innisidgen Carn; his drawing depicts one side of the mound comfortably extending beyond the capstones (Fig. 4.8). However, it is not possible to say on the limited evidence that the mound extended all the way to create a crescent or hemispherical profile for all entrance graves.

Kerbing

Defined as a low wall retaining a matrix of earth and cairn-fill, it enveloped the chamber and acted as a revetment to support the structure from lateral slump as well as establishing the boundary of the monument. Techniques of construction varied but where it survives best, kerbing forms a wall comprising two or three dry courses (e.g. Bant's Carn, Innisidgen Carn, Cruther's Hill 'B', Great Tomb on Porth Hellick Down, Works Carn Bryher and Lower Innisidgen), inward leaning to counteract the horizontal stresses exerted by the mound (Fig. 4.9) and also to help continue the hemispheric shape of the mound.

When Hencken (1932, 20–22) classified entrance graves he identified two as being passage graves (Bant's Carn and Great Tomb, Porth Hellick Down) because of a change in direction from passage into the chamber. At Bant's Carn this was achieved by building an outer collar that contained a low mound to surround the first set of kerbing (Fig. 4.10).

Figure 4.6 Semi-covered capstones at Innisidgen Carn apparently unreconstructed

A second ring of kerbing also once existed at Great Tomb, Porth Hellick Down though here the angle adjustment from chamber to passage was carried out within the primary mound. Double kerbed walls, similar to Great Tomb have been identified at three more sites, Innisidgen Carn, Tregarthen Hill, Tresco and Great Arthur. The outer ring of peristaliths at Tregarthen Hill, Tresco was discovered and surveyed in 2008 by the author (Fig. 4.11). There are six further sites that show certain similar features that link them to this sub-category which would make a total of 12; it is likely that more exist.

Obadiah's Barrow and Work's Carn, Bryher each have a door-stone that constricts the entrance and separates the chamber from the passage, which leads off at a changed angle; Shipman Head Down, Bryher displays some secondary kerbing and Salakee Down, now destroyed by airfield construction, also had a passage and chamber arrangement similar to Great Tomb, Porth Hellick Down.

Chamber and passage

Measurements taken from the 40 entrance graves confirm that all chambers are roughly rectangular in plan, although 36 of these show the middle of the chamber is the widest point. In no case does the width of chamber entrance or terminal end exceed that of the mid-point in the chamber, though at three sites the chamber maintains a close to uniform width throughout. Width range is close, between 1.0 m and 1.8 m while the height is a constant 1.0 m. Nearly all chambers narrow towards the entrance and in many cases this is emphasized by one or two transverse door jamb-stones.

Door jamb-stones accentuate the transition from chamber into a passage, where one exists, as at

Work's Carn, Bant's Carn, Obadiah's Barrow, and Great Tomb, Porth Hellick Down. Interestingly, a change of direction in the passage is always counter-clockwise and at Great Tomb, the passage and chamber are both within the primary mound and therefore not a later embellishment. All passages are today uncovered from the point above the door jamb-stone outwards, so this may be the original design; the one exception is at Obadiah's Barrow where the first capstone extends over the passage but it has probably been moved.

Figure 4.7 Great Tomb Porth Hellick Down c. 1900, during excavation (Alexander Gibson)

Chamber length (excluding passage) always exceeds the radius of the mound and varies from 2.0 m to 6.0 m (15 between 2 m and 4 m; 16 between 4 m and 6 m). Side walls are usually coursed, some have single height orthostats but a particular feature in all entrance graves is that the chamber back stone is a single, full width and height slab.

Much has been made of the chamber form by past authors who have characterised most as 'coffin-shaped' (Daniel 1950, 64) and eight 'good examples' have been cited. The site of Samson 'E' (Fig. 4.12) perhaps best supports this view but this is by no means representative of the generic type.

Others recognize a boat shape in chamber design (Ashbee 1982, 7–8) but despite an obvious correlation to people who were exploiting the sea for food and trade, why would the chamber bear an affinity to a boat and not the mound shape as well? In fact, a common trait in chamber design is for one side to splay outward near the central area, while the opposite side remains straight or close to straight, as in Figure 4.13.

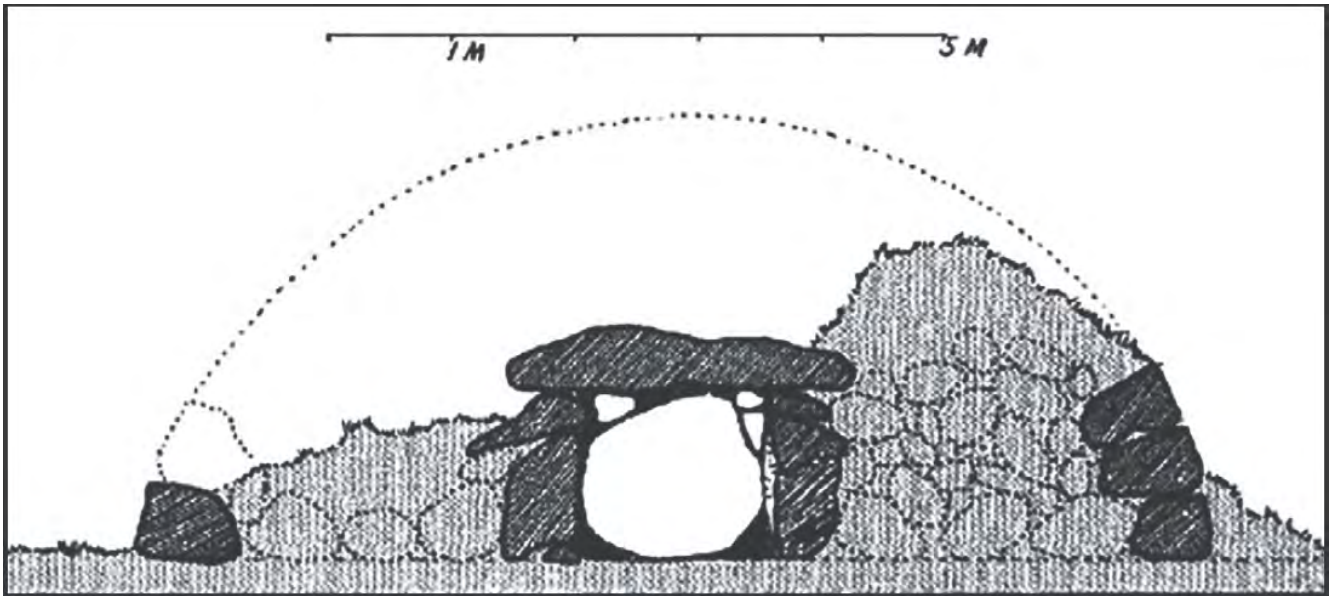

Figure 4.8 Profile of Innisidgen Carn drawn by George Bonsor c. 1900 that suggests a curved, earth-topped mound (after Hencken 1932)

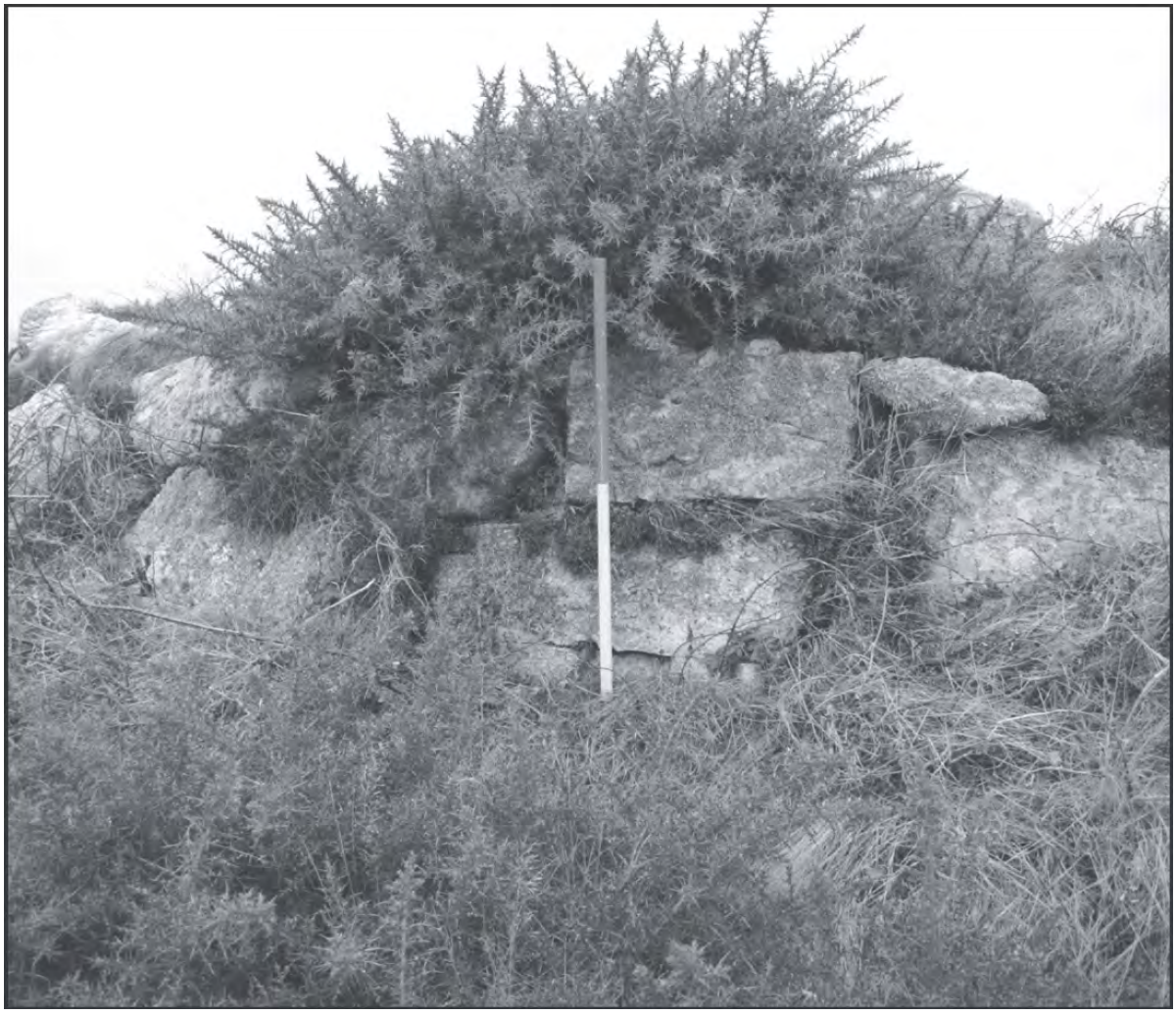

Figure 4.9 Outer kerb walling at Works Carn, Bryher

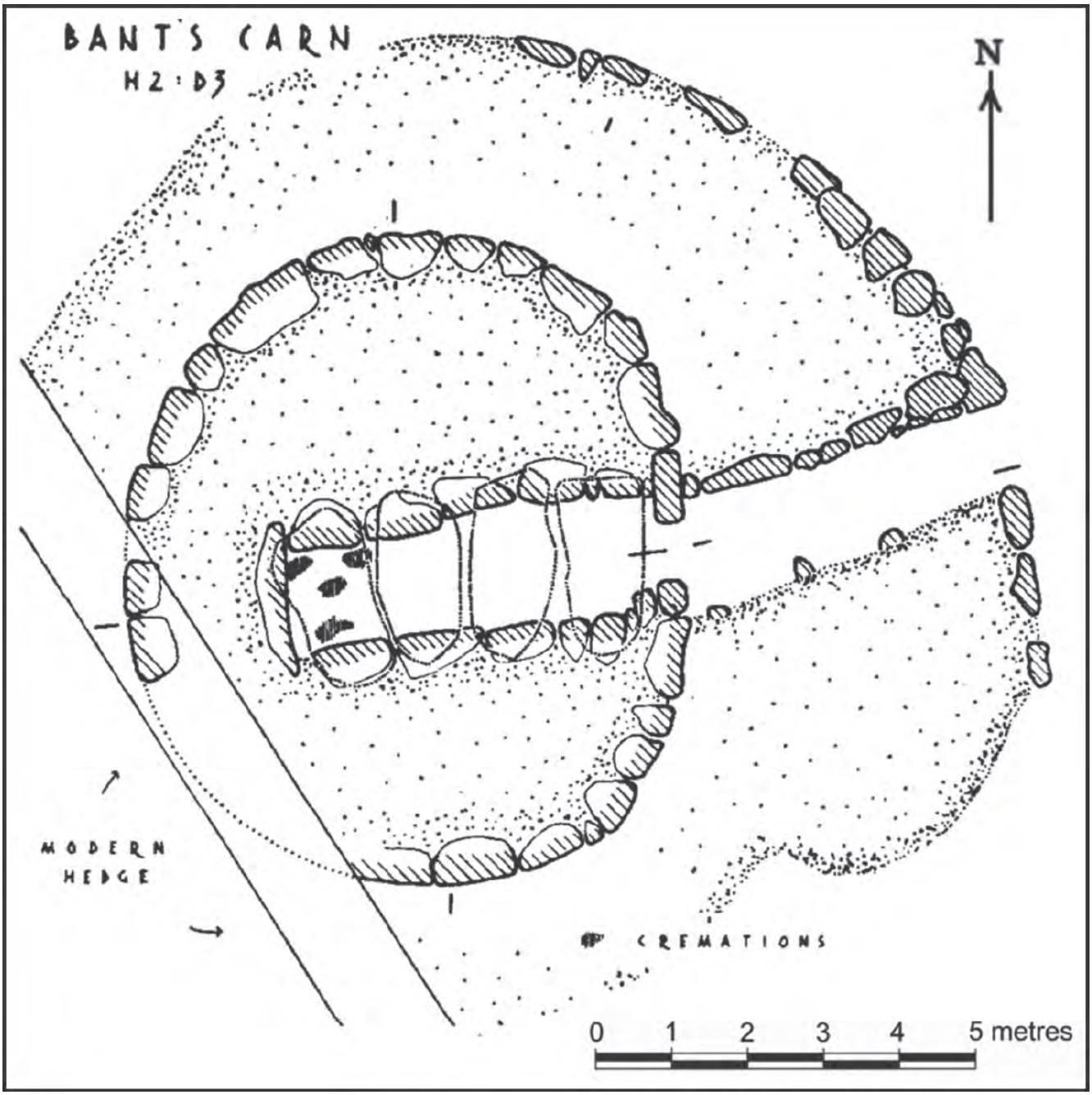

Figure 4.10 Bant's Carn (after Ashbee 1976)

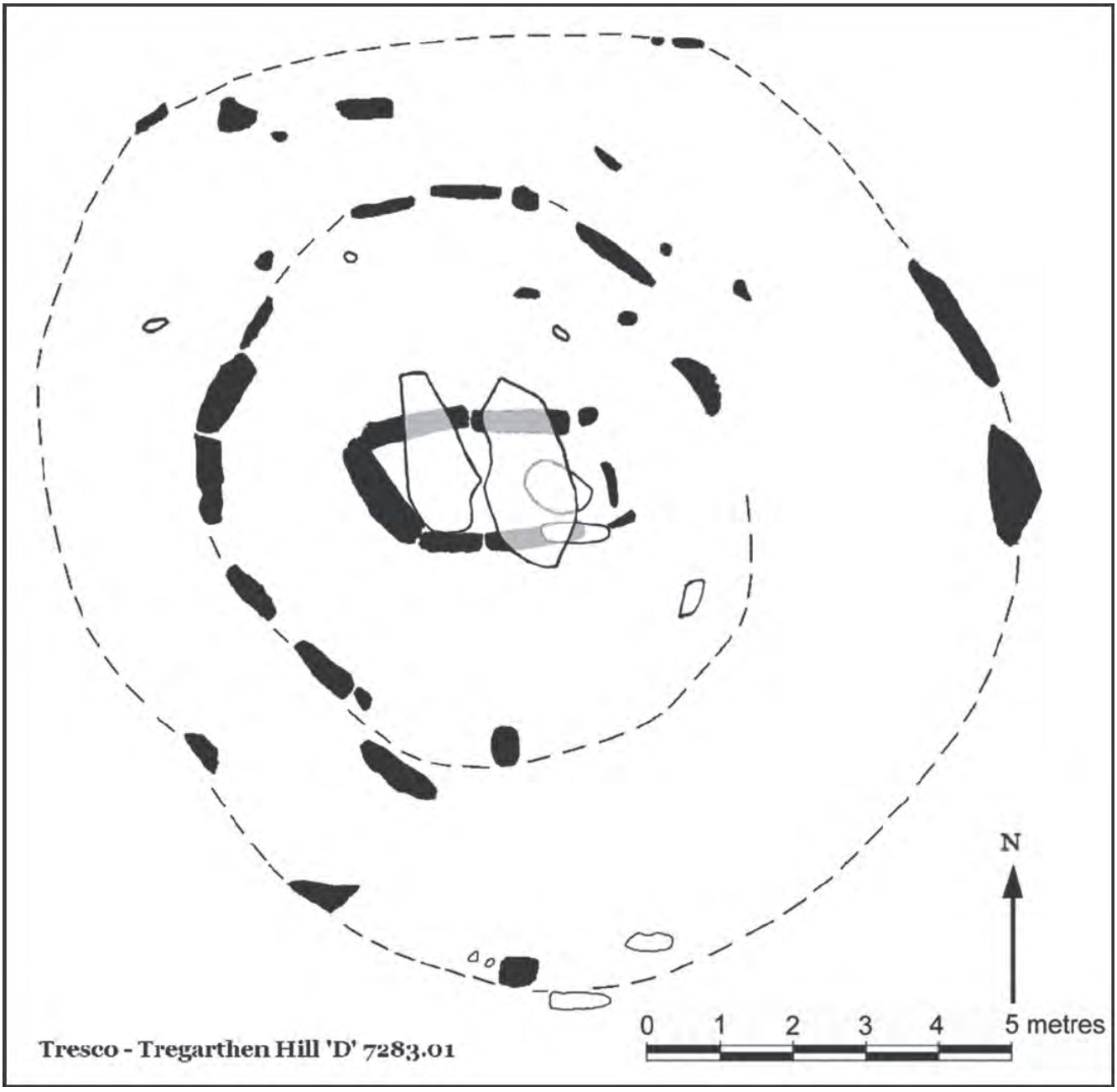

Figure 4.11 Tregarthen Hill plan

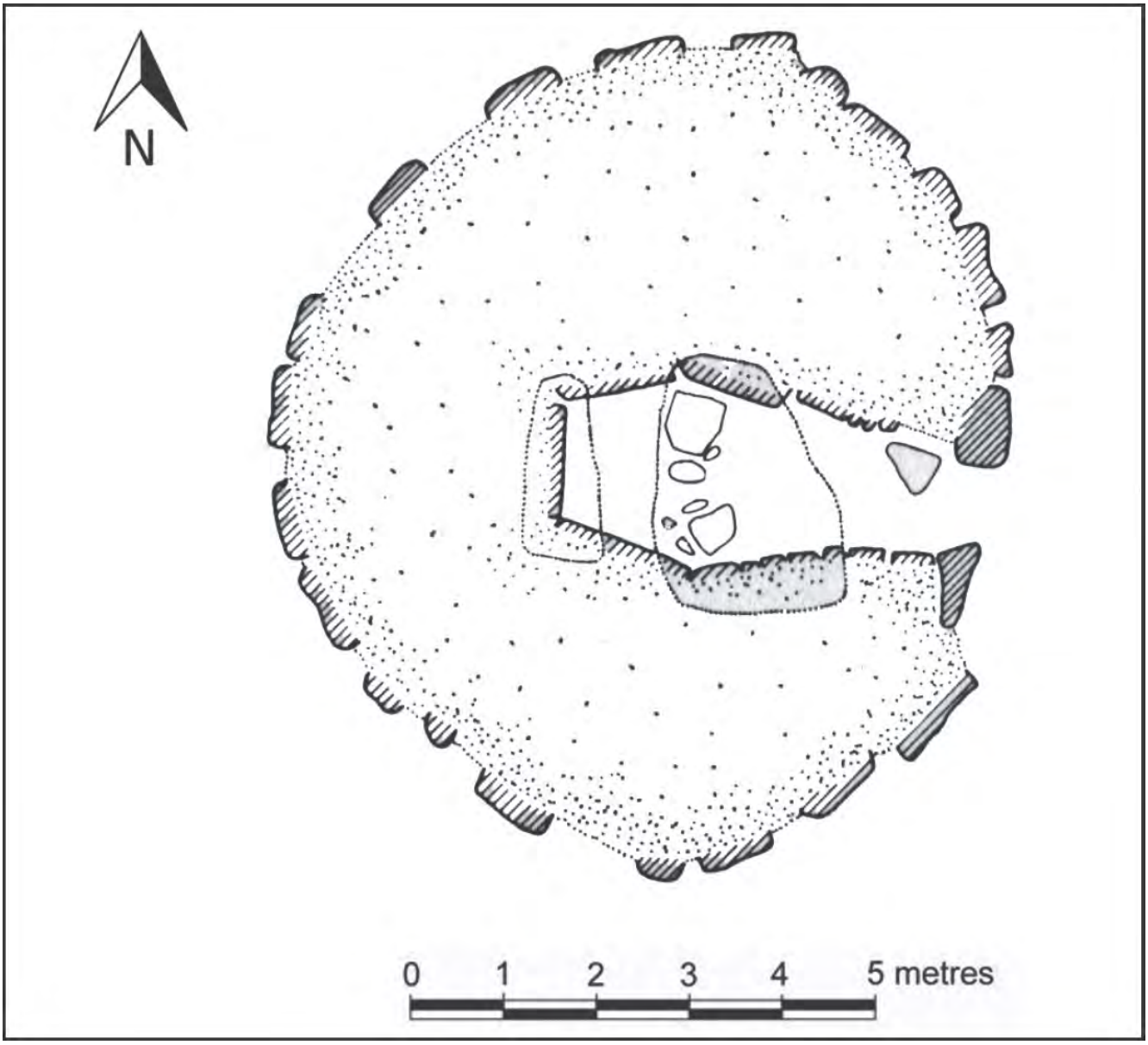

Figure 4.12 Samson 'E' (after Hencken 1932)

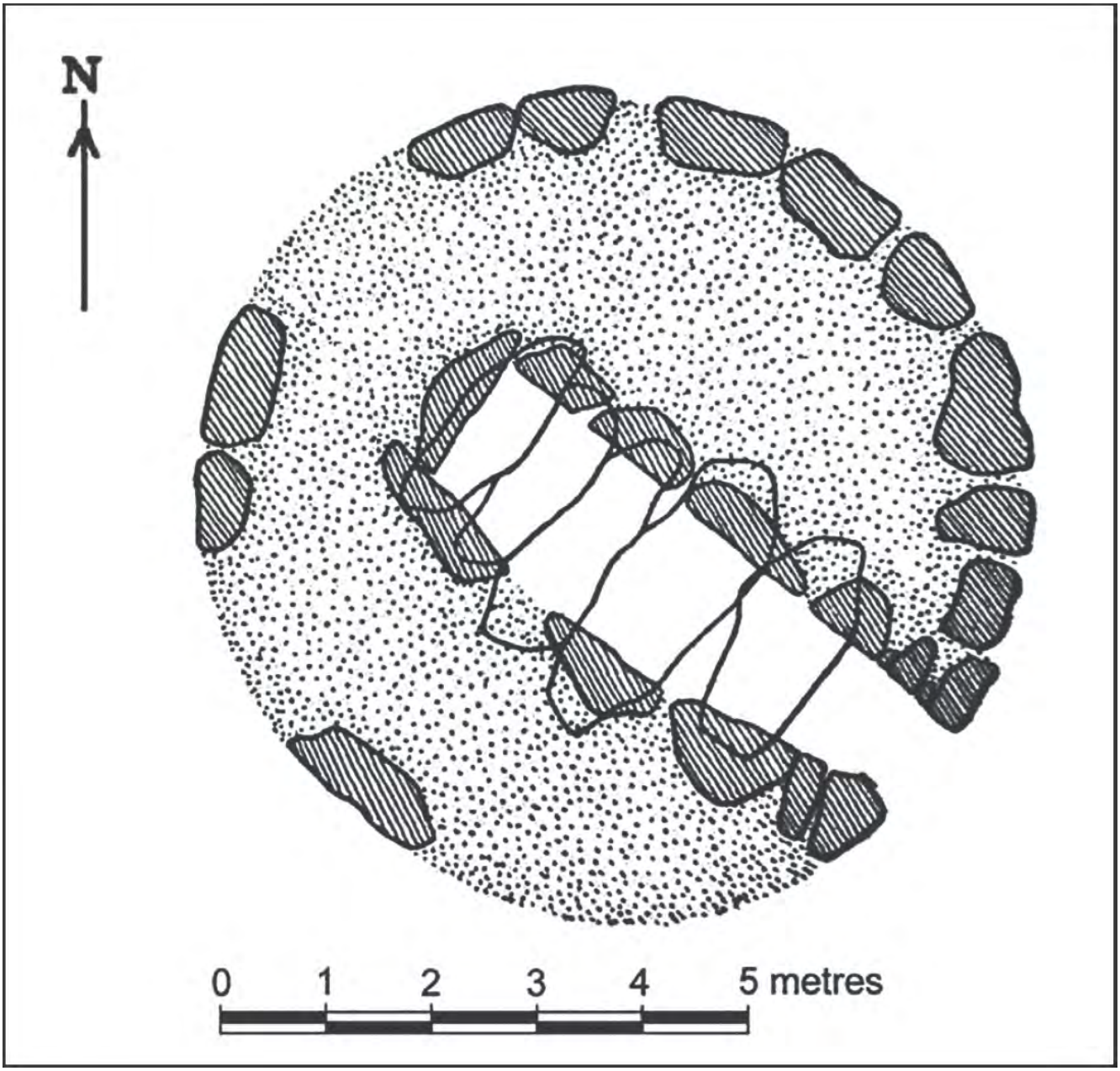

Figure 4.13 Innisidgen Carn (after Hencken 1932)

The quantity of capstones varies with chamber length, the greatest number found at one site is at Work's Carn, Bryher where there are six present and another is missing. Most other sites had five or six capstones; the largest being at Samson North Hill 'E' which measured approximately 2 × 2 m (Fig. 4.12). Not all capstones fit evenly together, though the majority are very regular and were well selected, but any gaps may have been filled with smaller stones wedged in. It is tempting to take the view that the mound would have continued over the whole area, to dissipate the worst actions of weather and protect the chamber contents.

At a few sites, evidence of the use of mortar can be seen in chamber walling. At Knackyboy Cairn stones were set in a granite clay paste (O'Neil 1952, 23) and Hencken noted a coarse yellow sandy mortar in chamber masonry at Samson North Hill 'E' (1933, 25). Crawford found the same evidence at Innisidgen Carn (Hencken 1932, 24), while long before, Borlase observed that mortar was used at Buzza Hill, St Mary's (Borlase 1756, 30). Ashbee conjectured that the internal chamber walls could

have been rendered over (1974, 101), which would have created a potential canvas for mural art, though there is no evidence for this and neither are there any rock carvings or paintings in entrance graves.

The final group for inclusion in this section are entrance graves which make use of natural rock outcropping to form kerbing, or part of the chamber. Most of these monuments are quite derivative in form and their mounds are often sub-circular and diminutive in size by comparison to others. Chambers in this group are frequently off-centre to the mound and it all gives the impression that less time was invested in their construction or possibly there was a numinous affiliation between these natural elements and the monuments. Nevertheless, one is drawn to the conclusion that these represent a later phase in sequence; the original architectural traits are diluted and, in most cases, their siting in clusters on hill ridges is characteristic of the way mounds and cairns were located elsewhere during the Bronze Age.

Distribution and setting

Several features were found during the survey that linked certain entrance graves together. It has been already discussed here that twelve monuments displayed distinct traits such as double kerb walls or a marked differentiation between chamber and passage line. Additionally, they are collectively all above the average size in terms of chamber width and length and unsurprisingly are set in larger than average mounds. There are other features that mark these monuments apart from others and for recognition purposes within this chapter I have termed them principal sites. Their landscape setting is remote from the highest points and nearly all occupy a position on an intermediate ridge or slope. On investigating the spatial analysis of their distribution it was found that they are located in solitary zones or are separated from other groups. A good example of this is illustrated at North Hill, Samson (Fig. 4.14). Here, six entrance graves and six cists which hug the ridge line of the hill.

The cists, dating to the Bronze Age on North Hill are all orientated north–south, while the entrance graves are either orientated east, face directly uphill, or point to the North Hill ‘E’ entrance grave. This group of cists can be considered as locally orientated; the North Hill ‘E’ monument is sited away from the linear ridge group and is a little down slope. All entrance grave openings turn their backs to the sea, a phenomenon that is repeated across the islands and elsewhere in Atlantic Europe. The sea therefore, appears to have been a prevailing concern for the orientation of these monuments; however it could be suggested that the people constructing them were perhaps aligning entrances inland and toward occupation sites or even that ritually, builders were ignoring the sea. Two of the sites (Lower Innisidgen and Obadiah’s Barrow) are cut into hillside slopes with their entrances facing up into the hill and although Innisdgen Carn faces seaward, it actually points to a tor which shields the monument from the Atlantic. It is generally considered that an easterly direction is a feature of Neolithic monuments (Daniel 1950, 80) but overriding this is the view argued here that orientation to the rising sun for example, was a secondary matter.

The distribution of all known entrance graves is shown in Figure 4.15. In this map Robinson (2007b, 115–118) has drawn attention to the close relationship between entrance graves and granite tors. Tors are quite numerous around the islands and occur at all levels in the landscape. They have been used as ossuaries, for example at Yellow Rock Carn and Carrion Rock (both St Martin’s), where urns have been placed into rock crevices (Robinson 2007b, 115).

Many entrance graves are sited very close to or physically incorporated into tors and it seems they were used as a point of reference; Innisidgen Carn is clearly ‘hiding’ behind the tor, obscuring the monument’s visibility from the seaward side. This is interesting because, on the one hand it is situated in close proximity to the coast but, instead of making the most its maritime aspect, there is a deliberate attempt to obscure its vista.

A different method of construction was adopted at Work’s Carn, Bryher which is built into a tor, half way up South Hill, so well that it is indistinguishable from the tor when viewed from the shoreline below. Another example, on the summit of Samson Hill, Bryher shows how the natural tor feature has been adapted on one side by attaching orthostats to create a chamber. It has been suggested that for seafarers, significance was invested in the tors because only they had knowledge of entrance grave locations and in support of this, Robinson concludes that monuments were associated with tors that acted as wayfaring markers and ‘the landscape settings of entrance graves can only be understood from journeys made on the sea’ (Robinson 2007a, 118). A counter argument to this is that no attempt has been made to make these tor-converted monuments into more obvious territorial markers, visible from on sea. Moreover, few entrance graves can be identified from the sea, especially when taking into account the altered Neolithic coastline; maritime associations are a little tenuous from this perspective. Monuments may have been sited peripherally on the islands and therefore seemingly have direct seascape connections, yet this is not necessarily the case. As an interactive experience between seascapes and landscapes, I think that entrance graves function poorly. Only by association with tors perhaps acting as beacons could we ascribe a maritime connection.

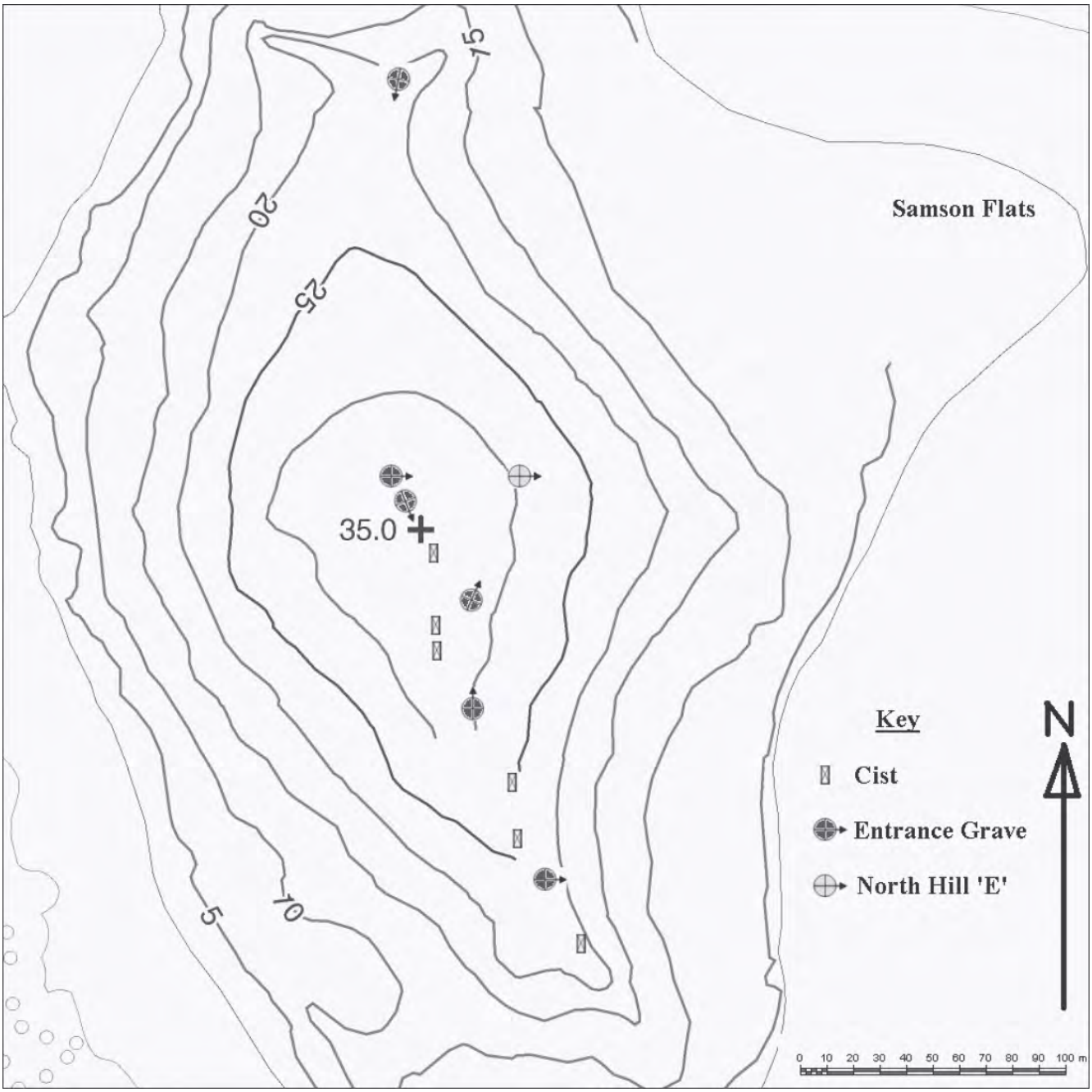

Figure 4.14 North Hill, Samson

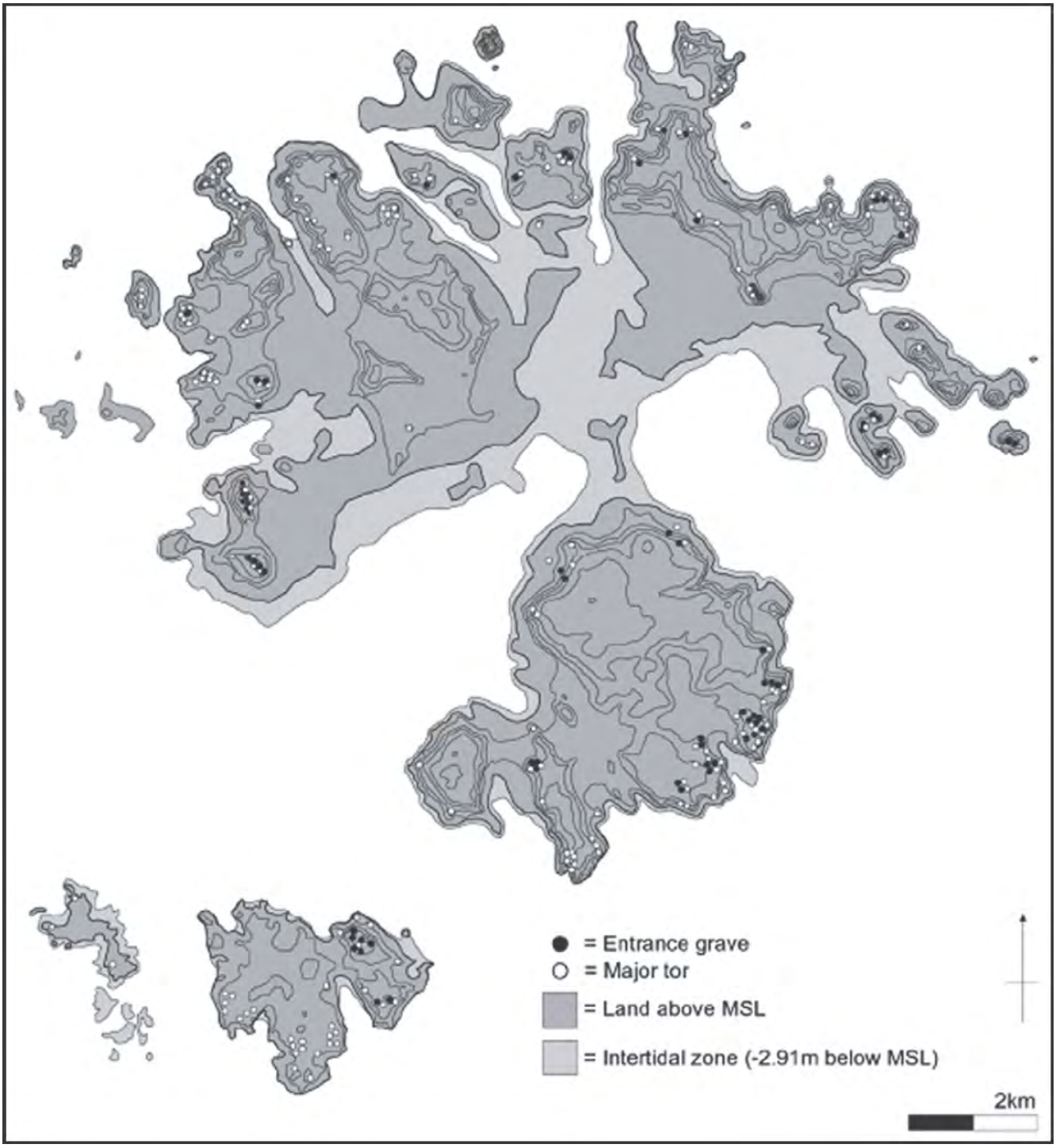

Figure 4.15 Distribution of entrance graves & tors (after Robinson 2007b)

I would suggest that their settings are surely more intimate and localised. Their distribution demonstrates that tracts of marginal land were selected for use as liminal landscape zones. Their peripheral nature possibly indicates utilisation as private areas reserved for important ceremonial occasions. In what may be seen as a grammar of landscape, a fundamental set of principles appear to be encoded onto the landscape in a very ordered manner. The adoption of high moorland, hill ridge-lines, coastal fringes and intermediate hill zones for ritual use signifies that these were areas removed from everyday life. In a land mass that has its highest point at 56 m, entrance graves adopt elevated zones and intermediate areas around the islands and not below 20 m from present sea-level. It would

also have been prudent to sacrifice the least productive land for ritual use when good cultivation soil was at a premium. Most of the 12 principal sites are closer to the lower occupation zones and could well have acted as initial territorial markers between settlements, probably acting as peripheral or boundary markers (Renfrew 1976, 200).

Associations

There have been many references made of related monuments outside the Scillies, chiefly in Cornwall where six surviving examples share close affinities in design and shape (Barnatt 1982, 48); others have increased the count to 12 (Russell 1971) and there would have almost certainly been more. Most are quite small by comparison to Scillonian entrance graves and all are restricted to the western Penwith part of the peninsula, the extreme tip of Cornwall and closest to Scilly. As such they represent a spill-over from the islands, in terms of their number, geographical distribution and diminutive size.

In County Waterford, Ireland, there are further associated monuments, sufficient for Piggott to describe the whole assemblage of entrance graves as a Scilly-Tramore group (Piggott 1954, 264). Research by the author found two of the Waterford monuments bearing a resemblance in morphology with Scillonian entrance graves. Carrickavantry displays a similar chamber and mound profile, though ironically this is one that has been attributed to the wedge tomb class (Ó Nualláin & Walsh 1986, 26), while the chamber at the much ruined Munmahoge is only superficially reminiscent of the Scillonian form. The monuments of Matthewstown and Harristown (Fig. 4.16) share similarities in plan with entrance graves but are large megalithic monuments by comparison and situated on hilltop prominences. At Carriglong, another supposed entrance grave, Powell (1941) associated the V-shaped chamber with Scillonian tombs, a quaity that few, if any, possess.

Scillonian entrance graves stand alone in their design with few close parallels elsewhere, though there have been suggestions of similar style monuments present in Brittany, the Channel Islands and the Iberian peninsula (Daniel 1950, 148–149; 1960, 197; Powell 1941, 61). Only La Trepied, located on the western coastline in Guernsey has the author seen possble affinities to the Scillonian type. Scarre usefully compares the Moléne archipelago, off the north-west coast of Brittany, with Scilly. Both have suffered from sea inundation and share a high density of Neolithic monuments with similar pattern of distribution (Scarre 2002a, 29), though the diversity of the Moléne assemblage and their architectural style sets them apart.

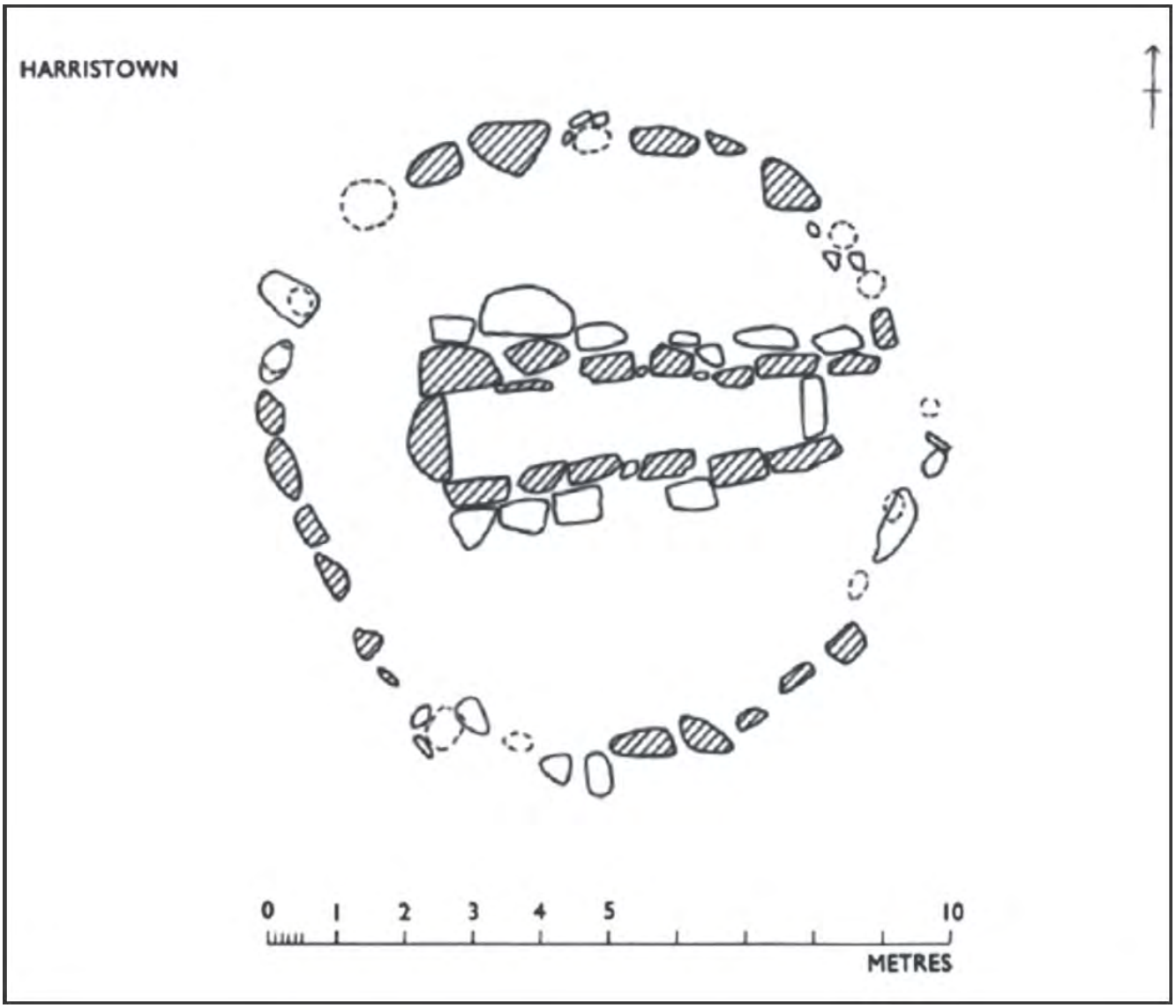

Figure 4.16 Harristown, Co. Waterford

What we are left with is the possibility that, despite the desire of many archaeologists to look outside for influences, original types have usually arisen in response to local design requirments and not by diffusion from foreign models (Fleming 1972, 71).

Burial and deposition

The majority of Scillonian entrance graves stand empty and denuded, the result of clandestine removal of all deposition and from stone robbing. Only 14 have been excavated, the first to be recorded was by William Borlase in 1752, who opened the chambers of two monuments on Buzza Hill, St Mary's. In the larger of the two he found only 'strong earth which smelt cadaverous', while in the second he discovered a small round pit filled with 'some different colour earths from the natural one' (Borlase 1756, 15). His mention of a pit is significant, for this is the first of several such discoveries made at later excavations. Borlase did not find any bones or urns in either chamber. In four excavations, Salakee Down, Great Tomb Porth Hellick Down, Samson North Hill 'E' and a second monument on Salakee Down, pottery was found but no burials of any sort, though greasy earth which did not contain

any bone fragments was found at Salakee Down in the bottom of an urn. This brings into question the blanket view that all entrance graves functioned as mausolea; it was certainly one of their functions. The possibility for use as shrines has been mooted by Ashbee (1982, 14) and there are cases of non-burial ash and occupation debris in some of the chambers, but at these particular sites very little was found to suggest their purpose. It may well be that with the significant re-use of chambers, initial contents were cleaned out; at Samson North Hill 'E' and Bant's Carn Neolithic potsherds were found at the entrance to the chambers as if they had been swept out.

The recurring pit feature within the chamber floor has also been found at two other excavations. George Bonsor discovered the disarticulated bones of one man underneath later floor paving in a 400mm deep pit at Obadiah's Barrow. Besides the inhumation, the pit contained blackish soil of a different colour to the natural but nothing else in this primary context (Hencken 1933, 22). Secondly, at Knackyboy Cairn a pit of dark soil with potsherds was found by O'Neil at the back of the chamber and another small hollow of charcoal and granite sand was discovered underneath the floor in the centre of the chamber (O'Neil 1952, 23). What all these pits of dark earth originally constituted has been a matter for conjecture; Ashbee suggested that the monuments might be shrines containing deposits of top soil offered by Neolithic farmers who were concerned about soil impoverishment (Ashbee 1982, 14). An alternative has been proposed by Robinson, which is that the deposits could be the scraped up remains of funeral pyres (Robinson 2007b, 106). Later burials were usually placed in urns within the chambers and infrequently accompanied with simple grave goods, such as bronze metalwork, glass beads at Knackyboy Cairn, pumice stones and other particular stones; overall it is a very limited assemblage.

Substantial quantities of pottery have been recovered from some of the excavated chambers, notably Knackyboy Cairn and Obadiah's Barrow, while at a further nine excavated sites small pottery fragments were retrieved. Sherds from 22 complete pots and a mass of fragments, amounting to some 200kg came from Knackyboy Cairn (Fig. 4.17).

These were estimated to be the remains of around 60 people (Ashbee 1974, 116) and at Obadiah's Barrow about a dozen urns were placed into the chamber, inverted in the custom observed by the people of Brittany, according to Bonsor (Hencken 1933, 22). It is likely that a series of burials was carried out in these two chambers which make it difficult to establish any sort of sequence; in addition to this, a considerable amount of tipped-in deposits were made in both chambers.

From the various chamber assemblages of pottery, three main types of urn have been summarized as barrel, biconical and bucket (Fig. 4.18) (Ashbee 1974, 249). The pottery is decorated on the upper halves of the vessels, in cord-impressed and comb-impressed styles. This style is distinctive and separate from mainland Cornwall and suggests that there was a strong cultural identity in Scilly; rarely does mainland pottery of the collared urn type occur in Scilly (Robinson 2007b, 66) and it implies that this was a period of limited external contact.

Seven locations around the islands have yielded finds of early Neolithic pottery, three of them in entrance graves. Fragments of round-based Hembury Ware from the entrance area at Bant's Carn and Samson North Hill 'E' could be accidental or residual evidence of an earlier phase of activity, as the likely Hembury Ware sherds found in the primary layer at Knackyboy Cairn indicates.

In Table 4.1, a brief summary is shown of several features that link a possible early group of sites together. This is obviously based on fieldwork carried out to date and as such is a provisional list for

consideration. Some of the sites are very ruined and it is doubtful whether much more information could be obtained from them.

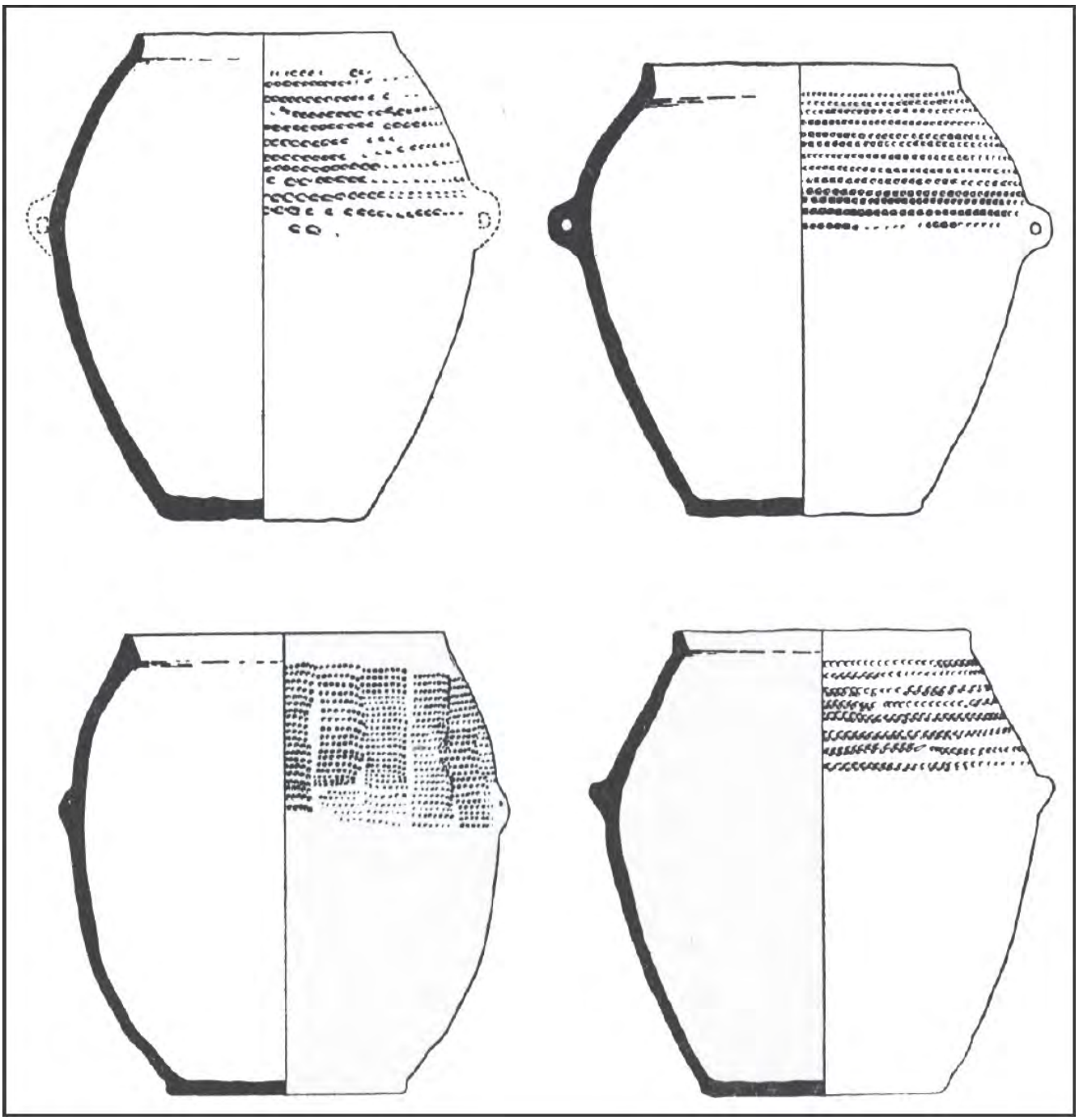

Figure 4.17 Main pottery types from Knackyboy Cairn. The earliest type, a biconical urn, is at bottom & later bucket form at top (after O'Neil 1952)

Chronology

The lack of a clear chronology has been problematic for archaeologists studying Scillonian entrance graves, for there are no absolute chronometric dates currently available from primary contexts to indicate the period of monument construction and use assumptions by earlier writers which have generated a belief that a Mesolithic and Early Neolithic occupation did not exist on Scilly, but instead

was settled by Cornish migrants at around 2000 BC (Thomas 1985, 101–102). In fact, there is evidence of people living on Scilly for these periods as microliths, Larnian blades, flaked and polished axes and round-bottomed Neolithic Hembury Ware of the 4th millennium BC have been recovered (Robinson 2007b, 53).

Much of the Late Neolithic and Bronze Age plain and decorated ware vessels is unique to the islands and no clear classification has existed for a pottery sequence that covers this period until Robinson re-evaluated pottery from the deposits of Knackyboy Cairn (Robinson 2007b, 54). He identified three stratified layers of different pottery types but underlying these, in the pit of dark earth he has proposed that the sherds found may have been Hembury Ware. This suggests activity at entrance graves dating from the 4th millennium BC; similar pottery finds at Bant's Carn and Samson North Hill 'E', together with other pit features which were sealed over by later use, does create a potential pattern. It must also be remembered that in one of these pit contexts, Obadiah's Barrow, the only clear evidence for inhumation has been obtained.

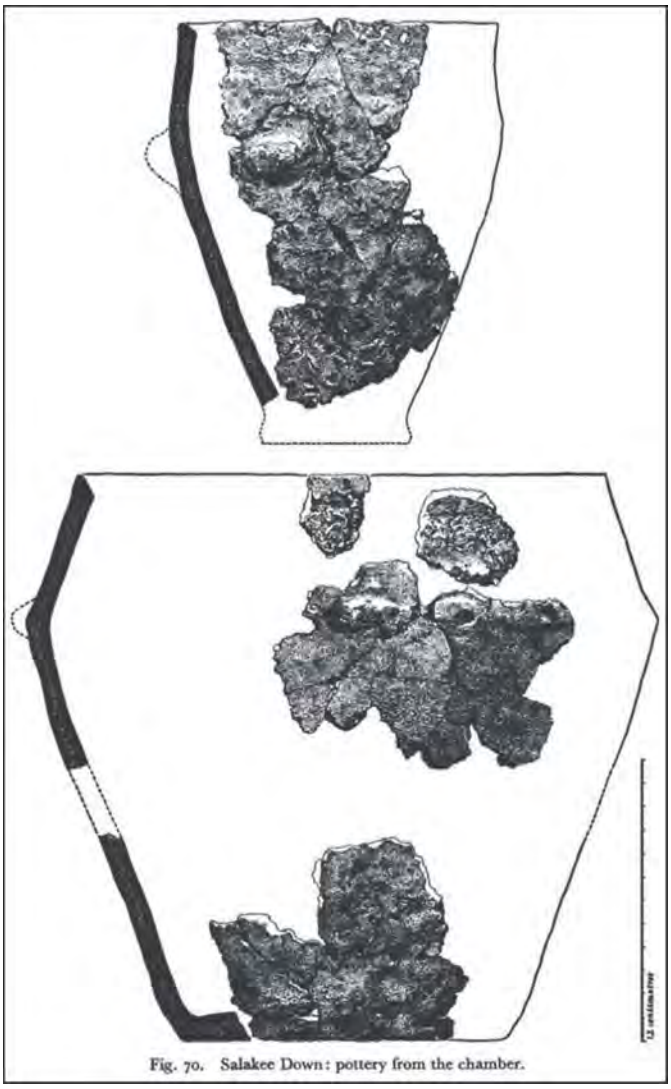

Fig. 70. Salakee Down: pottery from the chamber.

Figure 4.18 Biconical and bucket pottery, from Salakee Down (Grimes 1960)

Table 4.1 Table of principal sites associated by architecture, setting and finds

Site Name	*Double kerb*	*Passage*	*Finds*	*Intermediate Hill Zone*	*Door stones*
Bant's Carn	Yes	Yes	Neolithic pot	Yes	Yes
Porth Hellick A	Yes	Yes	–	–	Yes
Innisidgen Carn	Yes	–	Quern stone	Yes	–
Lower Innisidgen	Possible	Possible	–	Yes	Yes
Salakee Down	–	Yes	–	–	Yes
Great Arthur	Yes	Yes	–	Yes	–
Tregarthen Hill D	Yes	Likely	–	–	Yes
Work's Carn	Possible	Yes	–	Yes	Yes
Obadiah's Barrow	–	Yes	Primary pit	Yes	Yes
Samson North E	–	–	Neolithic pot	Yes	–
Shipman Down	Likely	Likely	–	–	–
Knackyboy Cairn	Possible	–	Pit & Neo. pot	Yes	–

The possible Hembury Ware fragments are supported by the discovery of a flaked flint axe on the palaeo-ground surface beneath Knackyboy Cairn, dated by analogy to 4000–3000 cal BC. Above the pit a first stratified layer contained eight pots of cord and comb impressed ware, a finer fabric than found in subsequent levels. No clear dates could be obtained on the earliest pottery but because the second layer of ash and cremated bone above contained faience beads, dated by analogy to 2200–1600 cal BC, an approximate chronology could be established. Finally, in the third layer, coarse bucket ware and globular shaped vessels were found to be comparable to similar types of Deverel-Rimbury series of southern England in use during Middle Bronze Age 1,600–1,200 cal BC. A sequence was thus created (Table 4.2) for the construction of Knackyboy Cairn by c. 3000 cal BC and a period of activity that ended at around 1200 cal BC (Robinson 2007b, 56).

Discussion

The most remarkable features concerning entrance graves are the commonality of design series and density of their number within a confined landscape; they are also the only re-usable chambered monument type on Scilly. There being just one type and with little dating evidence available makes it difficult to assign Scilly a place within the Atlantic sequence of monument architecture. Bradley (2007, 35) suggests the British Isles' distinctive geography made it possible for individual links to have been formed with separate regions of the European mainland that were not in regular contact and that this in turn created such distinctive and insular Neolithic practices in Britain. The Neolithic in Scilly is defined as much by what is missing from the 'Neolithic package' as by what is actually present. A lack of monument diversity and limited material culture may point to the fact that direct sailing across the western end of the channel from north west France to Ireland was too dangerous and therefore the Scillies were more isolated (Scarre 2002a, 103). Isolated or not, entrance graves do resemble passage graves, suggesting they are a simplified local variant of the type, which are absent from southern Britain yet common in the coastal regions of north-western France and the Channel Islands.

Table 4.2 Robinson's chronology

Chronological sequence of events at Knackyboy Cairn, St Martin's	
4000–3000 cal BC	Ground surface flint axe. Monument construction. Pit of soil with Hembury ware sherds.
3000–2200 cal BC	Floor paving laid, sealing the pit below. 8 cord & comb impressed fine fabric ware vessels.
2200–1600 cal BC	Thick deposit of ash & cremated bone. Faience beads.
1800–1400 cal BC	Globular shaped vessels with plain & incised decoration.
1400–1100 cal BC	Final burials in bucket shaped urns. Chamber sealed.

The difficulties in achieving a reliable and accurate chronology are well known, as datable evidence is sparse and, because most are secondary deposits, they do not synchronise with the construction stage of the monuments. However, the recently proposed ceramic sequence from Knackyboy Cairn has been useful in identifying the different phases of burial activity and a date span for one entrance grave. From the evidence gathered from previous excavations at least a proportion of entrance graves experienced a long and multi-phased use within a period of probable infrequent contact or influence from Atlantic Europe. The existence of likely Hembury Ware fragments from one site in a safe context and scatters at two others suggests that an early 4th millennium BC beginning for the entrance grave tradition is possible. A sequence of use and re-use continued until around 1200 cal BC (Robinson 2007b, 56).

One of the considerations of this chapter was to revaluate the classification of the monuments and I believe that there are sufficient grounds to separate a group of twelve, probably more, principal sites from the overall number and propose that these are possible sites of a 4th millennium BC origin that represent a clear pioneer phase. They are all identified by their relatively solitary, intermediate landscape positions and particular architecture; these include a larger size, curving or restricting passage with doorstones, and double kerbing. The glimpses of earlier Neolithic activity at some of these sites, in the primary underlying contexts, add importance to the list. Orientation of the monuments studiously avoids contact with the sea yet paradoxically they all have locations toward the peripheral edges of the islands. I consider these were part of important ritual zones that had occupation areas as their point of reference; affinity with the sea is not obvious and is incidental where it occurs.

The rest of the group are classified by three factors; a) they have simplified chambers without a passage, b) they occur in hill-top linear groups and clusters, and c) they are generally of a diminutive size and derivative in style. Inevitably there are a few overlaps in this attempt at categorization but with the very poor condition of many sites a complete and unequivocal classification is not possible. The classification of Scillonian entrance graves can be refined and the database re-specified, though more work needs to be done to extend these provisional findings across the whole group.

The lack of great elaboration or complexity in design of these monuments is interesting; restricted access to the chambers, characteristic of many Neolithic monuments, is only partially evident and is limited to the principal monuments. For the remaining entrance graves there is no segmentation between chamber and any passage, and therefore no clear architecture to suggest any liminal space. Even the nuances of variation detected in this study within the overall entrance grave type, are slight. I suggest that the simplicity in design and small deviation in the series reflects on a community that

received little in the way of external influences or stresses. The criteria for their architectural concept remained basic and egalitarian throughout their entire construction phase and use. Furthermore, there is little or no evidence for reconstruction or aggrandisement of the monuments at any stage. What the uniformity of design may indicate is a confidence displayed by the islands prehistoric communities of a social cohesion and an ability to sustain an indigenous material culture notwithstanding the apparent limited contact from overseas. A sense of self-determinism is evident from the lack of change to the architecture of the monuments and general lack of other practices embraced at this time, which are usually the result of contact and exchange networking.

Acknowledgments

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5

Ritual competition in the Final Neolithic of the Channel Islands

Paul-David Driscoll

This chapter explores the processes of internal ritual competition in the Final Neolithic of the Channel Islands. It explores the ways in which the islanders adopted and adapted external ideas and practices associated with the Beaker complex, and how they created new identities from these foreign concepts. Within the islands, different practices are recognisable, some almost identical to those occurring in northwest France and others unique, suggesting a divergence of traditions. Such divergence, it is argued, is part of intra-island ritual competition between different communities, who valued the ancestral heritage of the islands in different ways.

The Channel Islands are a fusion of traditions. Influenced by both French and English culture, they retain their own sense of identity, a reflection of their position as places within a sea across which travelled ideas, material culture, people, and occasionally, dominion. The islands (and their occupants) have engaged with the broader world on various levels since the islands first became detached from France during the Mesolithic.

Yet, the idea that the islands were distinctive places, with their inhabitants capable of defining their own identity, is not well established in the research of Channel Island prehistory. Little consideration has been given to how islanders adapted external practices to suit themselves and how these may not necessarily fit neatly within established chronological systems of the Atlantic Facade.

The islands have been viewed as static and unchanging places awaiting the arrival of concepts from further afield and whose inhabitants lack the ability to define themselves in relation to the world around them. But whilst the influence of new ideas, in their basic form, may indeed come from elsewhere, the way they were incorporated into the local repertoire shows a greater level of complexity

of Channel Island society. The Final Neolithic is important in this respect, for it is the point when the islands became involved in much wider continental networks than they hitherto had been. These networks, associated primarily with the Beaker complex, brought with them changes to material culture and ritual practice.

It is the local appropriation of these ideologies and material culture that this chapter is focussed. It aims to show that during the Final Neolithic of the Channel Islands a number of competitive ritual practices were played out between communities, one focused on the adoption of foreign ideas and concepts, such as incorporation of Beaker material into ancestral monuments, along with the practice of multiple burial that broadly match Beaker practices in north-west France, and one based upon the transformation of these customs into something different and insular, along with the emergence of single burial rites.

Geography

The Channel Islands are an island group off the north-west of France (Fig. 5.1), situated in the Gulf of St Malo, west of the Cotentin Peninsula and north of Brittany. They form part of the area collectively referred to as the Armorican Massif. There are five main islands and a series of islets and landmasses that are, at times, consumed by the sea (Fig. 5.2).

Jersey is the largest and most southerly of the islands, located 56 km north of Brittany, 24 km west of Normandy and 160 km south of England. Jersey has a number of satellite islets, notably the Écréhous to the north-east, the Minquiers due south and Ile Chausey to the south-east.

The island has a total land area of 11600 ha and tilts from north to south, with the highest point around 140 m above sea-level at Les Platons (Trinity) in the north. It is interspersed throughout by valleys, and many regions are surrounded by beaches. Southward-moving streams drain naturally into the waters of the southern parts of the island, and the deep-sided valleys, prone to colluvial deposits from agricultural runoff, cut through the interior plateau, creating diverse topography.

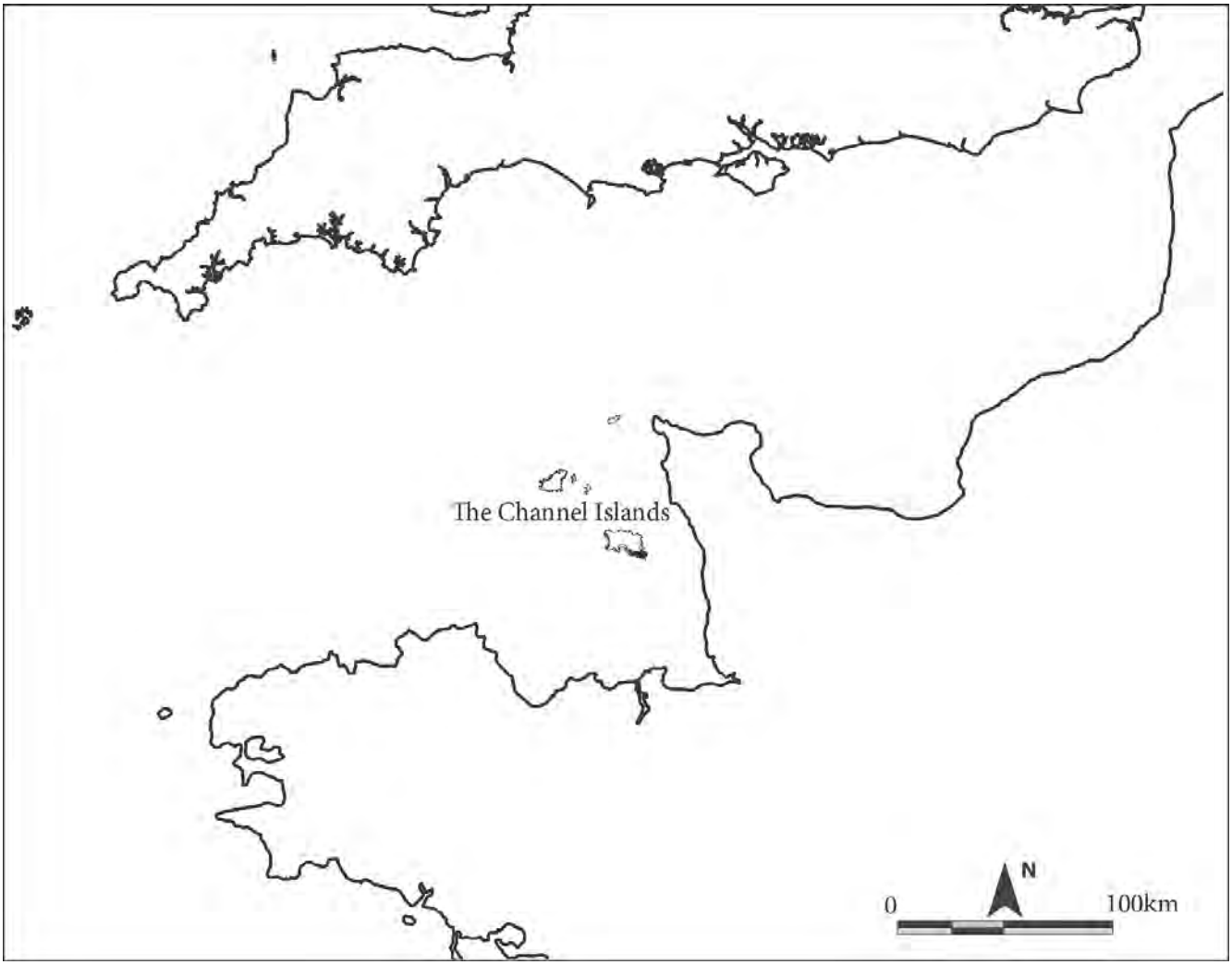

Figure 5.1 The Channel Islands in their European setting

Guernsey, the second largest of the Channel Islands (7800 ha), is situated roughly 24 km north-west of Jersey and is the most westerly island within the archipelago. To the east of Guernsey are the smaller islands of Herm and Sark. To the west of Sark is Brecqhou, and to the south-west of Herm is the islet of Jethou.

The southern coast of Guernsey is framed by high cliffs that rise to a maximum of c. 105 m above OD. To the north and west the land falls away to low ground creating natural drainage channels, which lead to impressive bays. Holocene sand deposits, like Jersey, have assisted in the creation of these beaches, which are such characteristic elements of the Channel Islands.

Alderney, the most northerly of the Channel Islands, 48 km to the north of Jersey and 12 km from Cap de la Hague, is the third largest (1350 ha). Like the other islands, Alderney is surrounded by rocky promontories, intersected by sandy beaches. It is devoid of the valleys found on Jersey and Guernsey, but has calcareous dune sand and fine sandy loess, behind which are peat deposits (Sebire 2005, 18–19).

Sark is the fourth largest of the Channel Islands, with a total area of just under 600 ha (including Little Sark but excluding Brecqhou), and is located c. 10 km east of Guernsey and c. 19 km north-west of Jersey. The island is divided by a causeway (known as La Coupée) separating Greater Sark to the north from Little Sark to the south.

Herm, the fifth largest of the Channel Islands is located c. 3 km due east of Guernsey and is 260 ha in area. Rocky promontories define the south, whilst to the north and north-west are sandy beaches, which are descended to gradually from a maximum height of 65 m above sea-level.

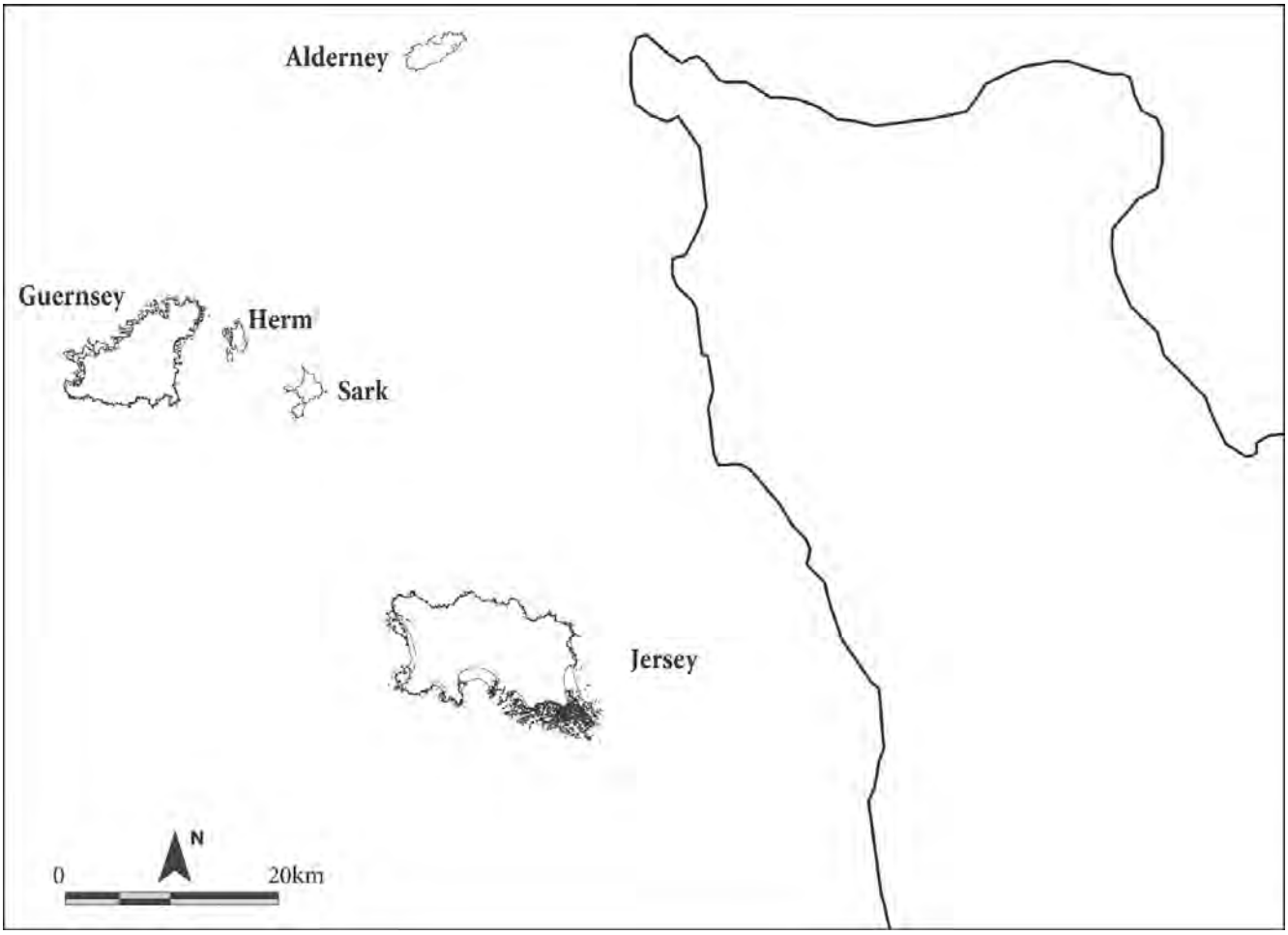

Figure 5.2 The Channel Islands in their regional setting

Setting the scene – defining a Final Neolithic in the Channel Islands

The term Late Neolithic has been used, traditionally, to separate the Middle Neolithic from the Chalcolithic. The preceding Middle Neolithic (4000–3250 BC) is characterised by the construction of passage graves, large chambered tombs of varying size and design, but with common features such as an approaching passage and main chamber. These tombs, which were restricted, enclosed and possibly chthonic, often incorporated the remains of deliberately broken Menhirs and appear to have been the burial places of only a few individuals. This has been considered evidence for the ratified control of sacred knowledge and ritual practice by community elders (Patton 1993, 181).

Conversely, the Late Neolithic, which in the Channel Islands has been given a date of 3250–2850 BC (Bukach 2005; Patton 1993; 1995), has been interpreted as a period of breakdown in society. Characterised by a change in funerary architecture, from restricted Passage Graves designed for elite consumption to simpler (and far smaller) communal ossuaries (Bender 1986, 33) generally referred to as Gallery Graves, or *alleé couverte*, such transitions mark greater access to ritual knowledge and the possible decentralisation of ritual practice (Patton 1993, 182). Gallery Graves are less complex in form

than Passage Graves, comprising a single chamber or a passage leading to an ante-chamber (L'Helgouach 1965) and the Channel Island examples fit well with this scheme.

With such a chronological system the Chalcolithic thus begins at 2850 BC and lasts until 2250 BC (when the Early Bronze Age apparently starts; Table 5.1), and this convention has become a well established term in the description of Channel Island prehistory (Bukach 2005; Guernsey Historic Environment Record; Patton 1987; 1995; Patton & Finlaison 2001).[1] The period has been characterised by the consumption of Beaker material, the production of Jersey Bowls, an indigenous form of pottery found only in the archipelago, and the construction of new monument forms, primarily the cist-in-circle.

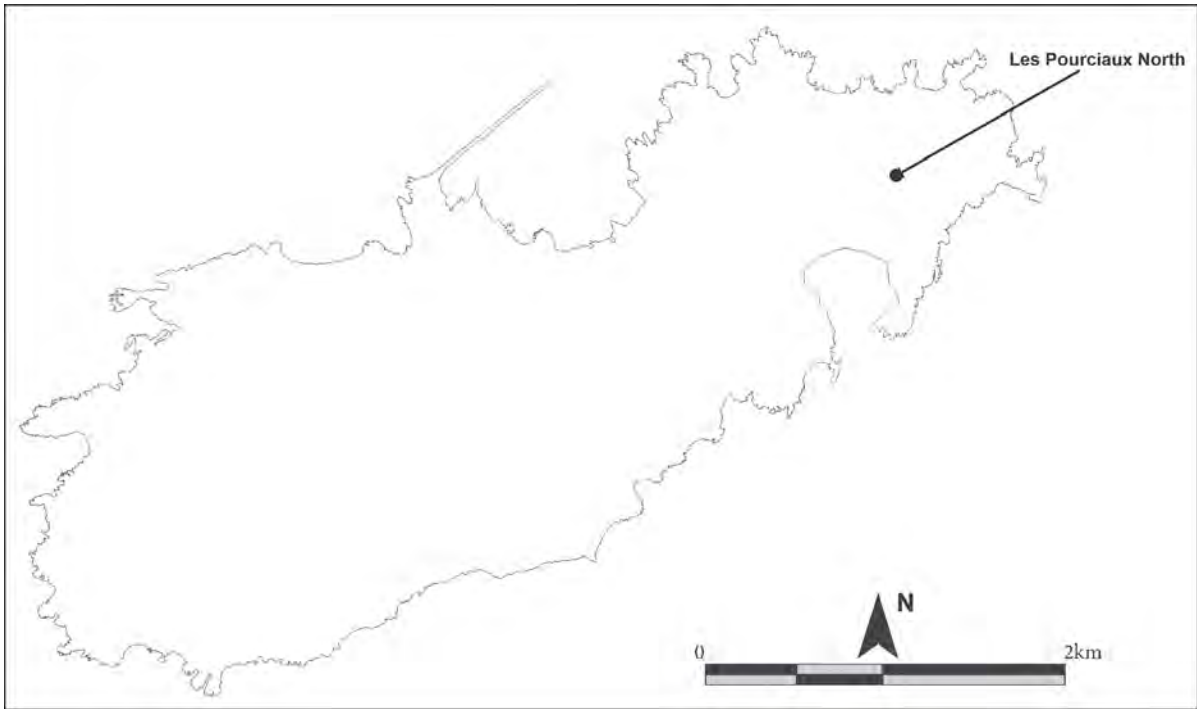

Figure 5.3 Sites on Alderney mentioned in the text

Yet there are problems with this division. Firstly, despite the proliferation of gallery graves in the Late Neolithic in Armorica, only three are known from the Channel Islands (although admittedly many more may have been destroyed), making it difficult to determine whether the same social practices have occurred within an island setting. Two occur on Jersey, at Ville-ès-Nouaux and Le Couperon, and one from Alderney, Le Pourciaux North (Figs 5.3 & 5.5). Furthermore, both the gallery graves and the passage graves were either re-used or were continuously used into the latter stages of the 3rd millennium BC. Secondly, the term Chalcolithic implies the use, even sporadically, of copper. Even in north-west French contexts the exploitation of copper at 2850 BC is rare, and certainly for the Channel Islands it does not occur until towards the end of the 3rd millennium BC, and even here the contexts in which it has been found are insecure. Thirdly, the use of the term Chalcolithic has been almost exclusively associated with Beakers and whilst this is a fundamental part of the 3rd millennium BC, it does not allow for diversity in the archaeological record, particularly as other forms of pottery not always found in the same context as Beakers are known, such as Seine-Oise-Marne and Flowerpot vessels.

Table 5.1 Broad chronology for Channel Island prehistory

Period	*Broad date range (BC)*
Middle Neolithic	4000–3250
Late Neolithic	3250–2850
Final Neolithic	2850–1750
Early Bronze Age	1750–1300

The Final Neolithic is a convenient term for describing that period within the 3rd millennium BC that follows from Gallery Grave construction, before and during the adoption of Beakers. It provides freedom from the often confusing terminologies of the Late Neolithic and the Chalcolithic, allowing flexibility for the incorporation of Beaker material into the islands repertoire, whilst allowing for the persistence of established traditions, as well as the development of new indigenous ones alongside Beaker activity (for example cist-in-circle monuments).

The Beaker complex in the Channel Islands

Bell Beakers are widespread in the Channel Islands, occurring on Guernsey, Herm and Jersey and offer a comparatively large assemblage for such a small geographical area, certainly compared to Brittany (Patton 1995; Salanova 2000). There are over 50 Bell Beaker vessels from the Channel Islands and a further collection of Jersey Bowls, although rarely from the same sites. Although the pottery can be classified into seven varieties, only three are of concern here.

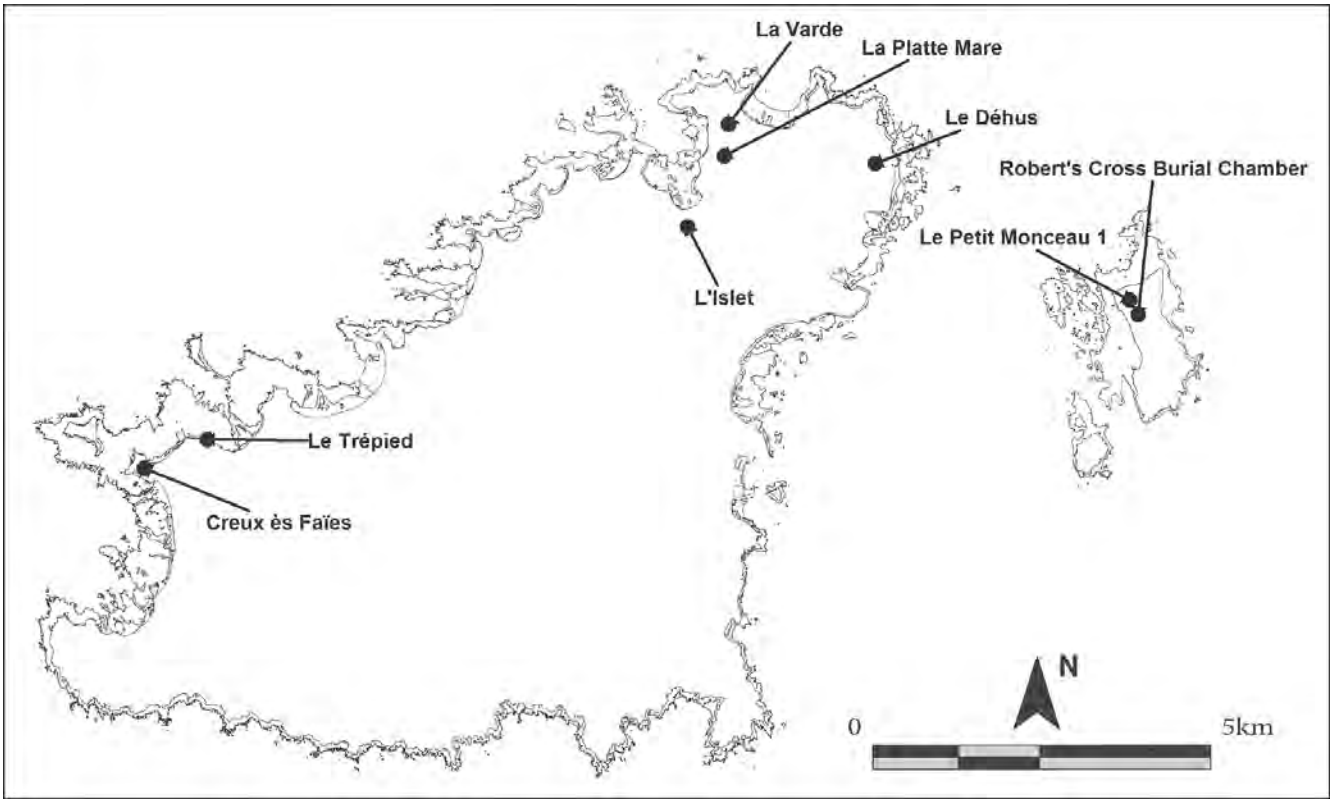

Figure 5.4 Sites on Guernsey and Herm mentioned in the text

The Maritime style is probably the most recognisable, and certainly dominates Armorican

assemblages where it was in use between 2880 and 2450 BC (Salanova 2000, 166). Channel Island Beakers have, in the past, been so closely linked to the Beakers of Brittany that past researchers even considered the Channel Islands a Breton colony (Salanova 2000: 54 citing Riquet *et al*. 1963). Both Patton (1995) and Bukach (2005) place the Beakers of the Channel Islands within the Armorican scheme of Maritime Bell Beakers and use them to define the chronological span and associated practices of Beaker activity in the Channel Islands.

Yet despite the use of the Maritime style to distinguish the Beaker phase in the Channel Islands, they occur infrequently. Instead, it is the Rectilinear style (Fig. 5.6) that dominates Channel Island assemblages (Salanova 2000). Salanova has identified the Lower Rhine as the origin for Rectilinear profile Beakers and importantly has distinguished that these are later than the Maritime style (2000, 171). She envisaged a spread of this pottery type from the Rhine Valley, ultimately being subsumed into the Breton repertoire. Radiocarbon dates from the Paris Basin, which include Rectilinear profile Beakers, are focused on 2200–1850 cal BC, but the standard deviations on these dates are large (up to 250 years) and an earlier date (but still post-dating the Maritime style) is entirely possible. The spread of Rectilinear vessels is not easy to comprehend, but it is possible that the same Fusion Corridor that saw the influx of Beaker material into Britain (Needham 2005) also saw the transmission of different Beaker varieties to Armorica and into the Channel Islands. Regardless, it would appear that different influences are exerting themselves on the archipelago in the 3rd millennium BC.

The third form of ceramic that needs consideration here is the Jersey Bowl (Fig. 5.7). Jersey Bowls are ceramic vessels that are clearly based upon Beakers, but which are unique to the islands. They are distinguished from other Beaker vessels by the pronounced carination, above which occurs decoration (never below the carination) and the difference in their decorative styles and the techniques employed to create this (Salanova 2000, 67; Bukach 2005, 161). Jersey Bowls have not been found in France, but are not restricted solely to Jersey as they have been found in sometimes large quantities on Guernsey (for example at La Hougue Câtelain).

Beaker material is copious in the Channel Islands and represents the involvement of the archipelago in the wider adoption of the Beaker complex throughout the Atlantic Facade. It is the most common form of material to come from Passage and Gallery Graves of the Middle and Late Neolithic respectively, demonstrating reuse of ancestral monuments (Kinnes 1988, 36), mimicking the same practice in north-west France. Such reuse is not surprising, nor does it single the islands out as different in any way, for the reuse of ancient monuments is well recognised in prehistoric Europe (Alcock 2002; Bradley 2002; Gosden & Lock 1998). It does, however, permit refinement of the knowledge of ritual practice in the Final Neolithic to be explored, putting into context the emergence of competing practices.

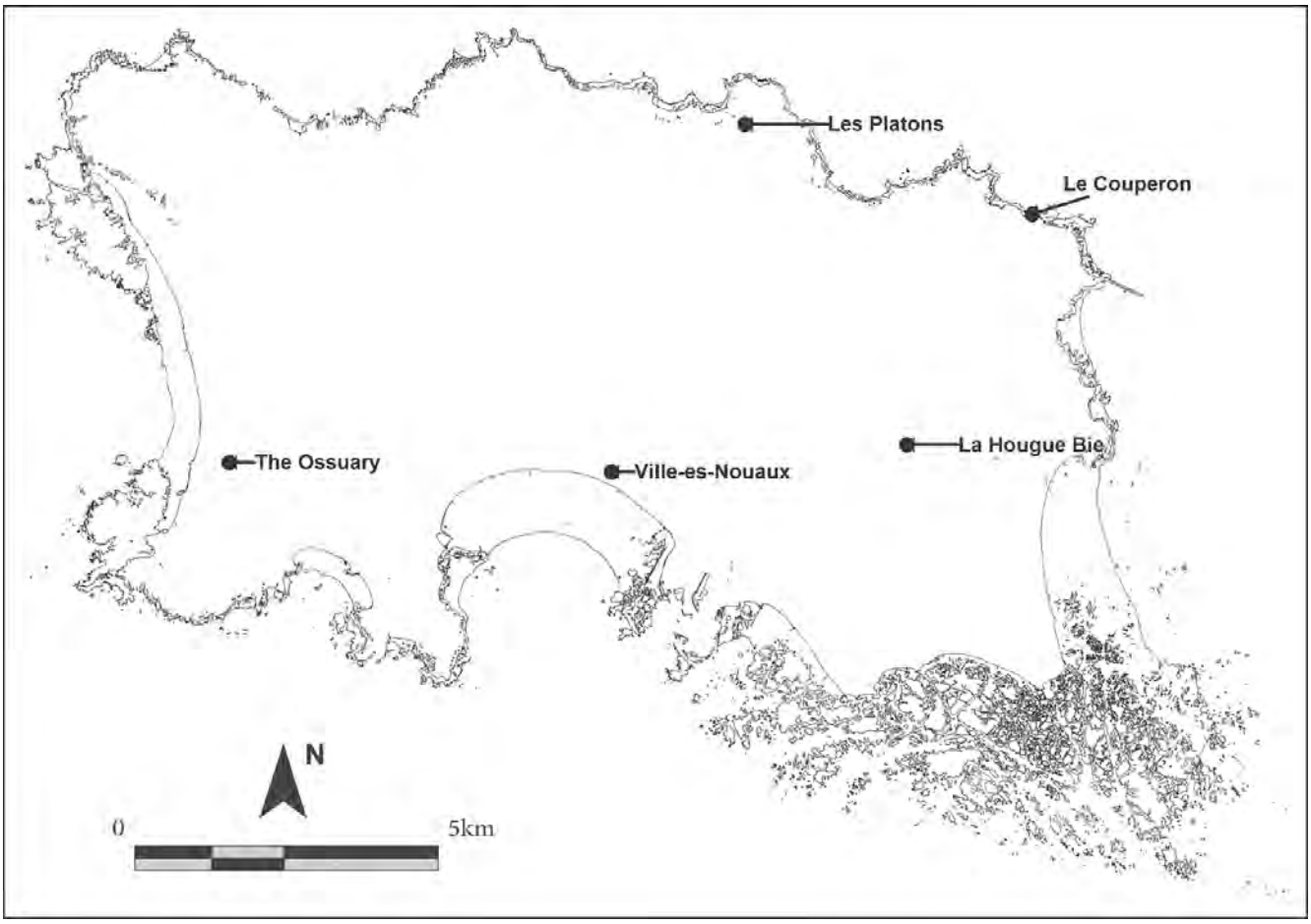

Figure 5.5 Sites on Jersey mentioned in the text

Beaker intrusion is recognised at the Middle Neolithic Passage Grave of La Varde on Guernsey (Fig. 5.4), where decorated Bell Beakers were deposited along with the disarticulated and cremated remains of a number of individuals (Kendrick 1928, 105). The stratigraphic association of the finds to the human remains is unclear, although two phases of use were identified by Lukis, when it was excavated in 1837–8. From this it can be deduced that the cremated remains came from the lower of the two layers, suggesting that the disarticulated remains came from the upper strata and are more likely to be contemporary with the Final Neolithic material within.

Le Déhus, one of the finest Neolithic passage graves in Europe, also demonstrated Beaker intrusion associated with the deposition of the dead. In side chamber A, two adults, a child and cremated remains were found along with a copper dagger and Bell Beaker sherds (Johnston 1981, 103). A similar process of reuse was witnessed at Le Creux ès Faies, also on Guernsey, where Bell Beakers, barbed and tanged arrowheads and human remains were found within the tomb (Kendrick 1928, 181–183; Johnston 1981, 97–98), and at Le Trépied, where human remains, barbed and tanged arrowheads and at least four Bell Beakers were found by Lukis in 1840 (Johnston 1981; Kinnes 1988).

On Herm, the Middle Neolithic passage grave of Robert's Cross contained human bone and two Bell Beakers, beneath a pavement surmounted by limpet shells and animal bones (Kendrick 1928, 208–210).

On Jersey, Beaker insertion into existing monuments is known at La Hougue Bie, although it is not possible to associate the ceramics found with any of the burial remains. Most notable, is the

incorporation of Beaker material into the gallery grave at Ville-ès-Nouaux in St Helier (Fig. 5.8).

Ville-ès-Nouaux was originally excavated by Lieutenant Oliver in 1869 (Oliver 1870, 63–65) and again by Bellis and Cable in 1883 (Bellis & Cable 1884), but the poor recording impedes a full interpretation. The excavation accounts by Bellis and Cable indicate the presence of two layers within the gallery grave itself, and from the upper horizon 12 Beaker vessels (mostly complete) and Jersey Bowls were found, along with an archer's bracer (Hawkes 1939, 263). No human remains were found but the excavators noted the discolouration of the earth, suggestive of human remains. The stratigraphic accounts from the excavations cannot be treated with any certainty, but it is likely that the Beakers and Jersey Bowls were contemporary depositions, rather than demonstrating tertiary reuse.

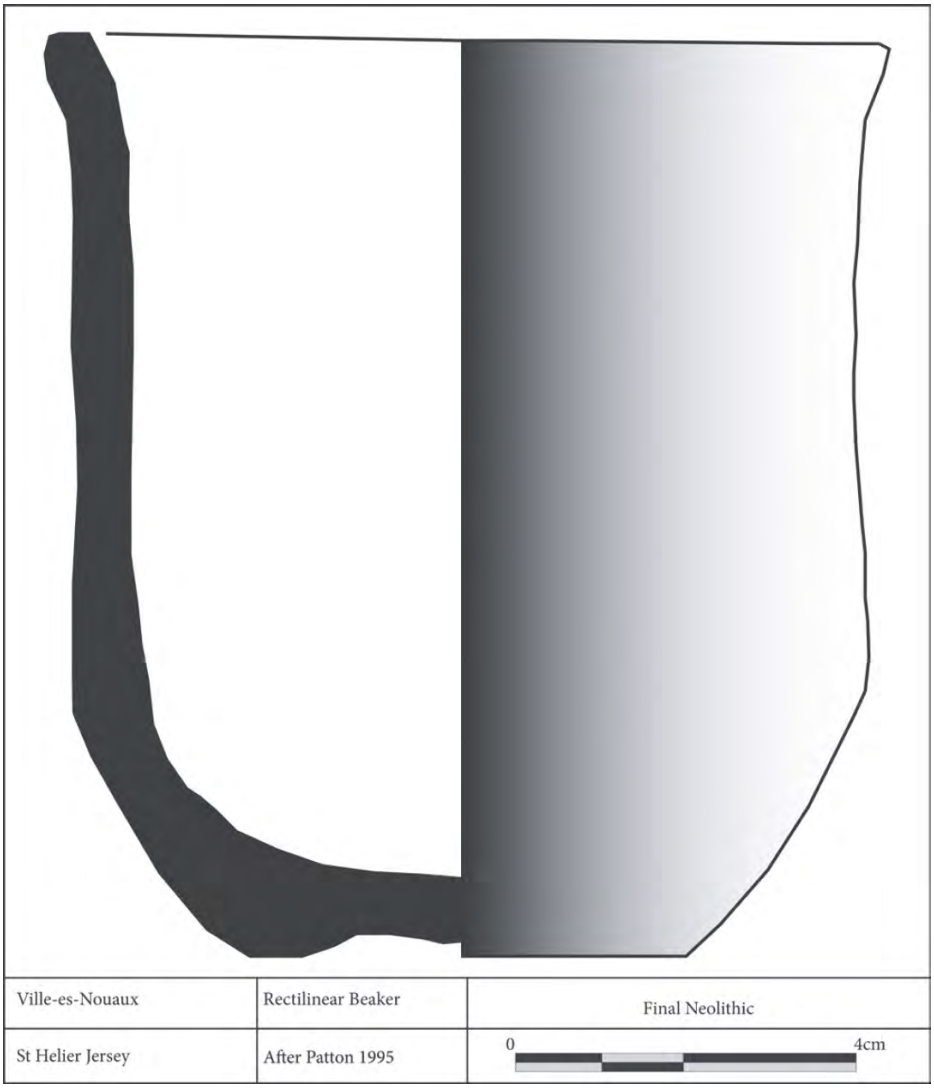

Figure 5.6 Rectilinear Beaker from Ville-ès-Nouaux

Figure 5.7 Jersey Bowls from Ville-ès-Nouaux

Ville-ès-Nouaux is an exceptional monument within the archipelago, comprised of a Late Neolithic gallery grave, Final Neolithic cist-in-circle and Bronze and Iron Age cremation cemetery, it is vital to understanding the prehistory of the islands. We shall return to the association between the gallery grave and cist-in-circle at a later point.

What is apparent from the above account is that the insertion of Beaker material into pre-existing monuments was accompanied by multiple burials, reflecting a practice that can be seen in north-west France (Marcigny *et al*. 2005, 26; Salanova 2011, 125–126). Yet despite this, other forms of ritual expression are evident in the Final Neolithic of the Channel Islands, reflecting different attitudes to external ideologies and the emergence of insular concepts that not only set the islands apart from north-west France, but also demonstrate intra-island distinctions.

Insular ritual practices

Contemporary with the practice of depositing Beaker material and human remains into pre-existing monuments is the creation of new monuments as repositories for the dead, along with the emergence of insular pottery forms that cannot be paralleled elsewhere.

On Herm and Jersey, cists for the deposition of multiple human remains are developed. These cists are smaller than passage and gallery graves, and are comprised of an internal chamber made of a series of upright stones forming a circle or square (Bukach 2005, 164). Le Petit Monceau 1 on Herm is one such megalithic cist of the Final Neolithic, which was investigated by Lukis in 1841. Kendrick remarks that there are at least two depositions of human remains, one of which came from an upper layer overlying a pavement of flat stones (Kendrick 1928, 201–202). These appear to have been the disarticulated and fragmentary bones of between 20 and 30 individuals, found along with Beaker and flowerpot sherds (Kinnes 1988, 31, 51).

This practice is mimicked at the Ossuary (Fig. 5.9), in St Ouen, on Jersey, where the remains of at least 20 disarticulated individuals were interred in a cist 3 m long and comprised of four uprights (Patton & Finlaison 2001, 114). During the excavations of 1923, two Jersey Bowls were found, one of

them complete (Kinnes 1988, 52; Patton & Finlaison 2001, 117). In many cases in the Channel Islands, the acidic nature of the soil destroys human remains. As such, the bones from the Ossuary are significant for providing evidence on burial customs. Recent osteological analysis has demonstrated that the bodies at the ossuary had (1) gone through a process of excarnation prior to deposition; (2) particular parts of the body including the skull and leg bones dominated the assemblage, suggesting deliberate retention of these skeletal parts; (3) there may have been a number of burial sequences; (4) both male and female are represented and; (5) one child was represented (Campbell 2001, 140).

However, the most dominant monument type to emerge in the Final Neolithic of the Channel Islands is the cist-in-circle. This monument form is vitally important because it sets island funerary practice apart from the reuse of ancestral monuments and the use of the cists described above, by virtue of their function as single burial monuments.

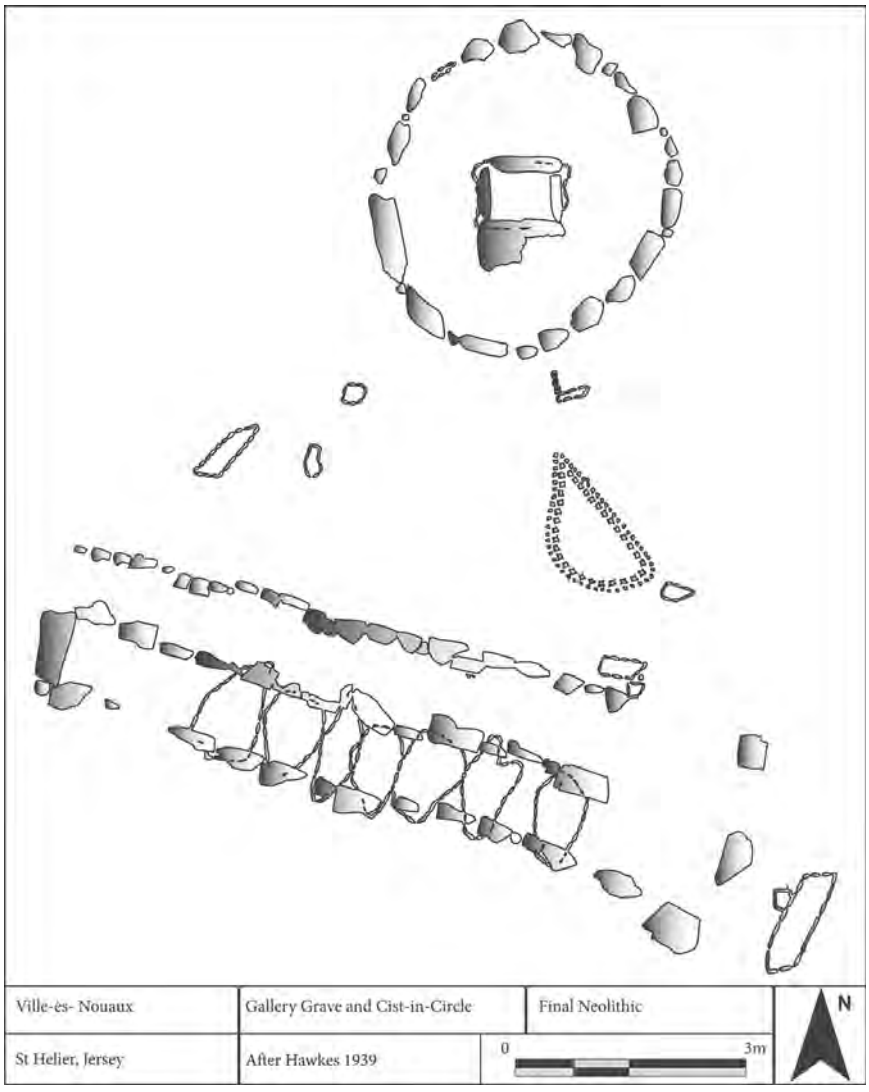

Figure 5.8 Plan of the Ville-ès-Nouaux complex

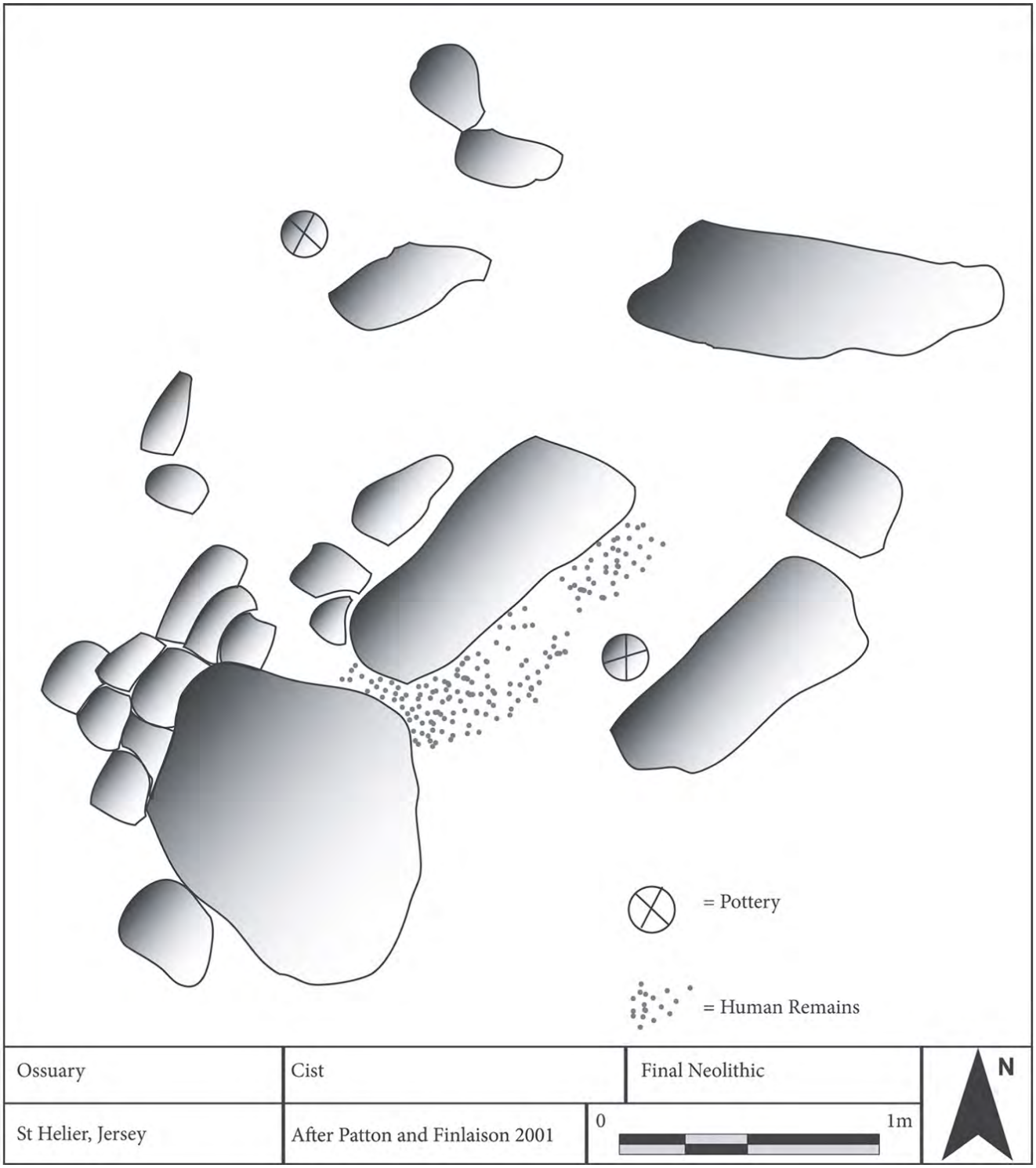

Figure 5.9 The Ossuary

Cist-in-circles comprise a series of upright stones forming a central cist, with a ring of stone forming a circle around it. As with Jersey Bowls, these monuments are unique to the Channel Islands, although the differences between these and Armorican cists may be superficial only (Briard 1986). The cist-in-circle is considered to pre-date tumuli of the Armorican full Bronze Age, and represents a movement towards single burial, a feature at odds with Beaker burial customs in the directly adjacent Armorican mainland (Salanova 2011, 126; fig. 73). In Armorica, Beaker burial customs are nearly entirely multiple depositions. A possible single burial of Beaker date occurs at Les Boullories in Saint-

Martin-du-Fragneau in Vendée, Brittany, but this is not certain (Salanova 2011, 135).

Although cist-in-circle sites in the Channel Islands are found in Guernsey, Herm and Jersey only Les Platons and Ville-ès-Nouaux on Jersey are in anyway identical. All the others differ significantly in form, suggesting that they are not homogeneous designs, even if the intent behind them is shared. Mare ès Mauves on Guernsey, for example, is trapezoidal in shape, whilst L'Islet (also on Guernsey) has ancillary cists to the north and south (see Fig. 5.10). These cists at L'Islet may have been secondary insertions into this monument, suggesting two construction phases. No human remains were recovered from the monument, although fragments of flowerpot vessels were.

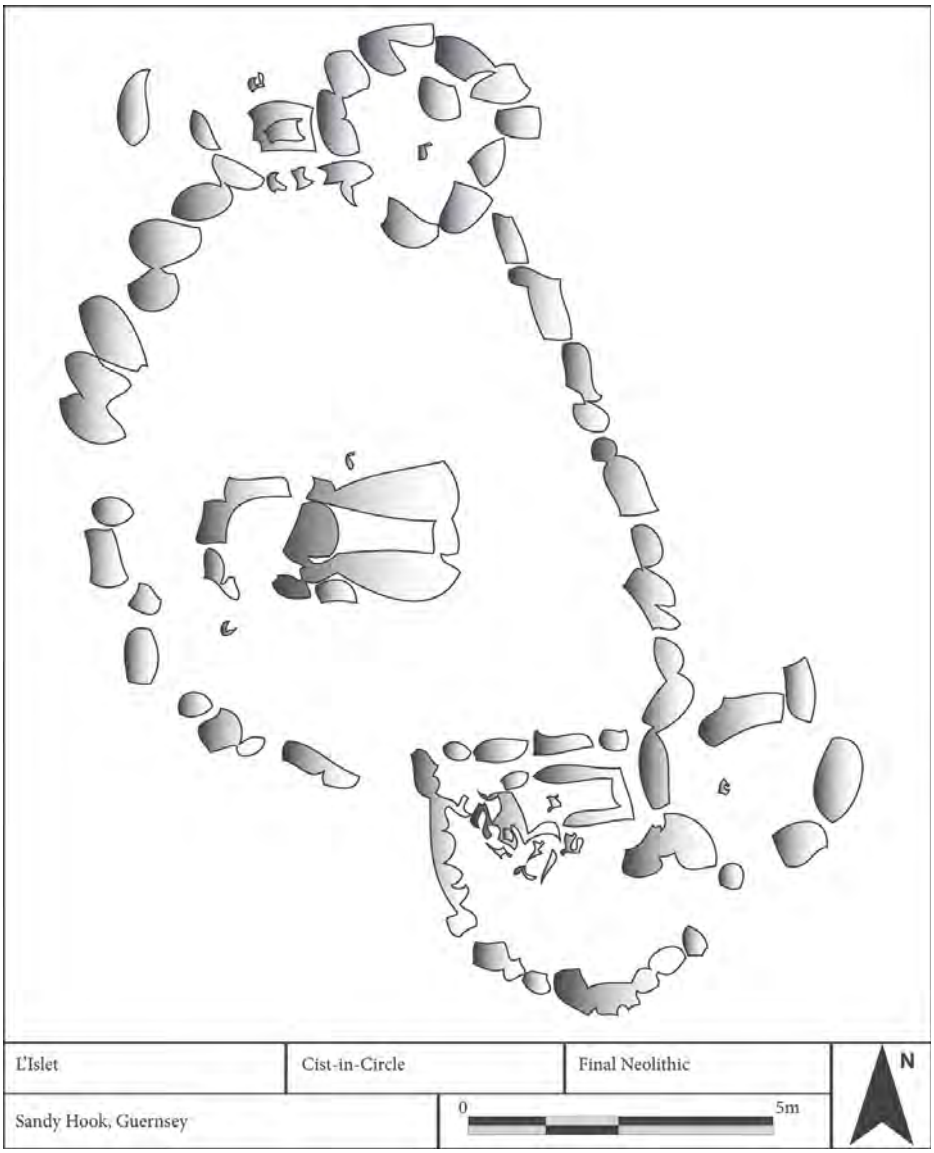

Figure 5.10 L'Islet cist-in-circle

La Platte Mare (Fig. 5.11) is a Final Neolithic cist-in-circle, with a roughly oval chamber of c. 3 m diameter, made of a series of upright stones (Kendrick 1928, 122–126). At some point between 1842 and 1921 the shape of the structure was altered, potentially to convert it to an animal pen (Johnston 1981, 109). Pottery from both L'Islet and La Platte Mare can be dated towards the end of the 3rd millennium BC (Bukach 2005, 156).

Les Platons in Trinity on Jersey consists of a ring of small upright stones enclosing a stone cist

surmounted by a mound 8 m in diameter and 1.5 m in height. Within the cist were found two pottery vessels, one of which contained copious amounts of cremated human remains and beneath the cist itself was found the possible remnants of the pyre upon which the dead were burned. Patton (1987) has interpreted the pottery within as being of Late Neolithic or Chalcolithic date, but the style of the larger of the two vessels has very close parallels in the Early–Middle Bronze Age assemblages from Ile Tatihou off the eastern Contentin (cf. Marcigny & Ghesquière 2003).

The most significant cist-in-circle site for this discussion is Ville-ès-Nouaux on Jersey (Fig. 5.8), which has already been mentioned above. It was a long-used mortuary complex comprising a Late Neolithic gallery grave, Final Neolithic cist-in-circle and a Bronze/Early Iron Age cremation cemetery, possibly forming one of a series of similar complexes across the islands (Cunliffe 1995).

The gallery grave would have been constructed between 3250 and 2850 BC, but it is its reuse that is important here, for within the gallery grave was found the most significant concentration of Beaker material from the Channel Islands, which probably dates towards the end of the 3rd millennium BC, based on the occurrence of rectilinear vessels in chamber. To the north of the gallery grave, a cist-in-circle was constructed, comprised of a series of upright stones forming a central cist, with a further a ring of stones forming a circle of c. 4 m in diameter around it. No human remains were found within, but the size of the central cist implies its use for individual burial. Sherds of pottery were found, but the nature of these is indeterminable.

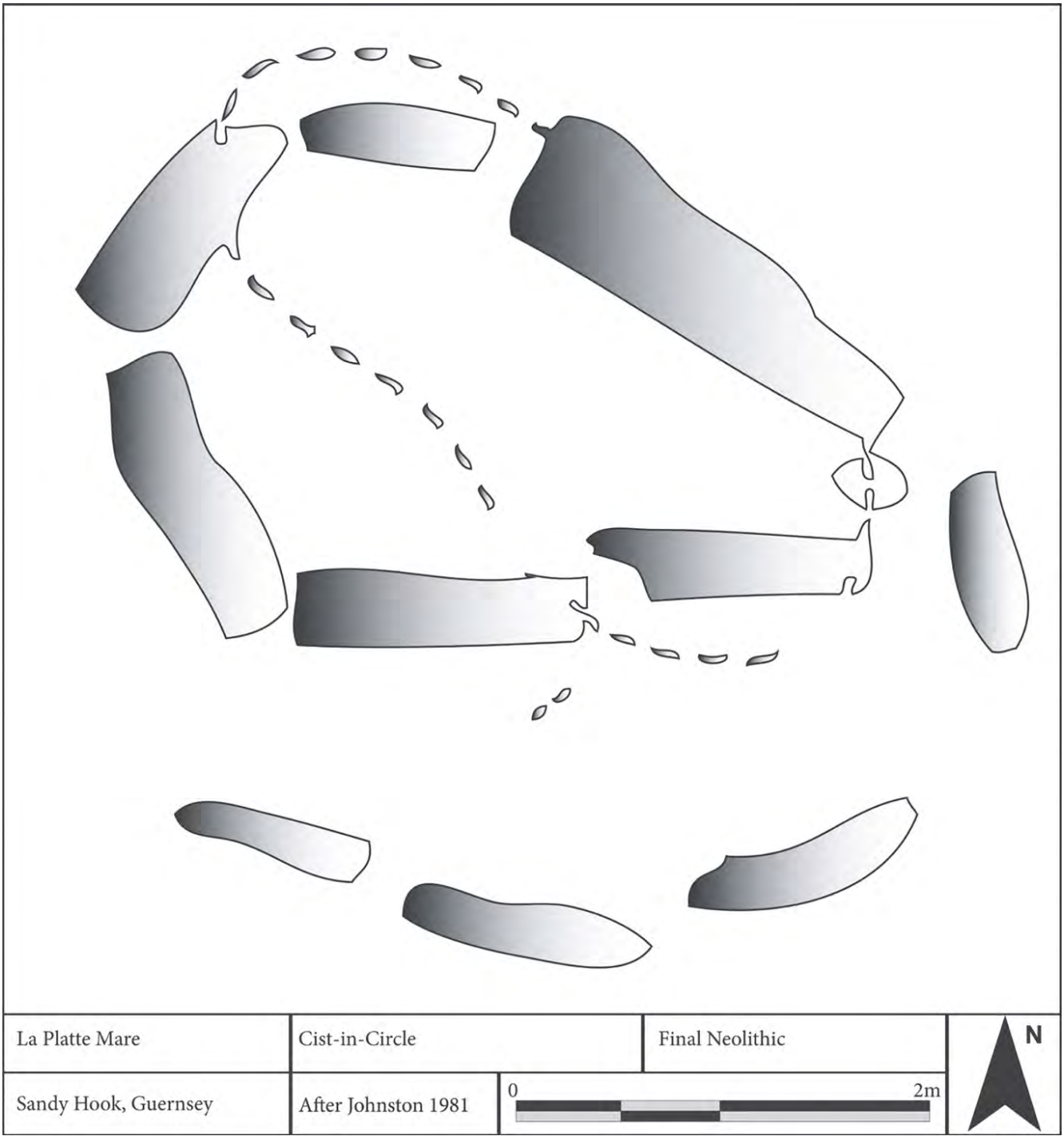

Figure 5.11 La Platte Mare cist-in-circle

The chronological relationship between the cist-in-circle and the gallery grave becomes a key one. The established date for cist-in-circles in the Channel Islands is 2850–2250 BC (Patton 1987), although a date toward the end of this range is more likely, based on the pottery found within the monuments (Bukach 2005, 156). As such it can be proposed that two different ritual practices, the reuse of a monument with the incorporation of 'lavish' material and multiple human remains, and the building of a new and unique monument, most likely for single burial, were occurring at the same site at the same time. Thus it may not be that Ville-ès-Nouaux was a ritual site for a single island community, but instead we may be witnessing insular ritual competition between different communities.

Ritual competition in Final Neolithic of the Channel Islands

The Final Neolithic of the Channel Islands was a period of diversity in ritual practice and shows that the islands were not homogeneous entities. Moreover, it is apparent that these ritual practices are not transitions, but are contemporary practices, occurring at the same time and sometimes at the same site. They reflect the different ways that intra-island communities engaged with death and responded to external stimuli, some adopting the practice wholesale, others creating new and different ways of ritual expression.

At least three separate ritual practices were occurring:

1. The reuse of ancestral monuments and the incorporation of Beaker material with multiple burials;
2. The construction of cists designed to hold multiple burials but not quintessentially Beaker;
3. The construction of single burial monuments without Beaker material.

The reuse of ancient monuments and the incorporation of Beaker material, clearly follow the same trajectory as north-west France, although admittedly the dominance of rectilinear profile vessels in the islands implies that influence came from wider geographical areas. This is important, because it shows that the islands were not simple extensions of Armorica. In Armorica the Maritime style of Bell Beaker predominates, as does the practice of multiple burial.

But despite the influence of the Beaker complex in north-west France and within the Channel Islands, the inhabitants, far from being swamped by foreign ideas, manifested their own identity through different ritual practices. The emergence of cists for multiple internments represents a break from the established ideology associated with ancestral monuments, but still with a communal focus. Evidence from the Ossuary suggests that selected parts of the body were retained for deposition and that adult males and females are both interred, but children rarely so. Such practice lacks the material wealth associated with the reuse of ancestral monuments. The fine Beaker pottery and paraphernalia, such as the archer's bracer, are absent as is the connection to the past. However, this need not mean that these were communities devoid of contact with the Beaker complex. Rather, the practice may be an issue of choice.

The development of the cist-in-circle, however, represents a radical change from communal funerary customs to single burial rites. These tombs are far smaller than gallery and passage graves and by design are for the interment of only one individual (although the disarticulated remains of a number of individuals are also a possibility). How and why such a practice developed is not clear, but potentially influence from the east, possibly the same Fusion Corridor that saw the arrival of rectilinear vessels was culpable. Individual burials of the Beaker phase are certainly more prolific towards the Paris Basin (Salanova 2011) and the influence of pottery styles from the same region (Patton 1995) may account for the emergence of different ritual practices. What is noticeable, however, is that the islands took influence from diverse regions, reflecting their position as coastal places within a sea across which travelled ideas, concepts and people. Yet, even with this new form of burial, the connections to the past are not entirely lost. At Ville-es-Nouaux, a site that had great longevity of funerary use, ritual practice was played out between groups who valued the ancestral heritage in different ways. One group were very much connected to past practice through the reuse of the Gallery Grave, whilst others recognised the symbolic associations of the site, but at the same time created a

new monument and at the same time a new way of connecting to their past.

What this all demonstrates though, is that different intra-island communities laid claim to particular places that held significance for them, even if another community were also making the same claim to the same site. Boundaries were crossable, sites capable of appropriation, and communities were able to interact with important ritual sites in a multitude of ways.

In the end though, the diversity that marks the Final Neolithic would stagnate. The Early Bronze Age, as defined in both Normandy and Brittany, would not appear in the Channel Islands until after 1800 BC, where once more the islands were drawn into international networks of interaction (Driscoll 2011).

Note

1 Only Heather Sebire (2005) has broken with this tradition, utilising a Neolithic/Early Bronze Age division.

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6

Establishing a diverse architecture: contextualising the Delancey Park gallery grave, north-east Guernsey

George Nash

Islands may often be characterised as remote and isolated from developments taking place in the wider world yet the Channel Islands during the Neolithic appear to have acted as a portal for key ideas associated with the architecture and protocol of burial-ritual monumentality. Guernsey and Jersey, the two largest islands, possess at least four monument types, one of these being the gallery grave tradition.

In the absence of chronometric dating, it is difficult to date a Neolithic burial-ritual monument with any degree of accuracy, especially if the remains are in a ruined state and, in the case of the Delancey Park monument, in north-west Guernsey, the site has been investigated on several occasions by early 20th century archaeologists who generated little or no paper records of their work.

Between 2009 and 2011, the site was surveyed and excavated by members of the Clifton Antiquarian Club.[1] *The results of an initial survey clearly showed the architecture of the monument to be that of a gallery grave, a monument type that can be firmly placed in the Late Neolithic. Subsequent excavation, however, yielded a wealth of artefacts attesting both to earlier and later activity, some of which is characteristic of settlement.*

This chapter draws on the excavation results to explore the various architectural and material cultural elements that establish Delancey Park beyond all doubt as one of three extant Channel Island gallery graves. In this chapter, I suggest, that landscape position, monument-orientation and construction methodology are integral components of an architectural tradition that remained largely static in a world characterised by transition.

The Channel Islands offer a diversity of monument types spanning the entire period of the North-west European Neolithic, with the passage grave tradition dominant on the two principal islands, Guernsey and Jersey. These, and related hybrid monuments elsewhere, occur between c. 3500 and c. 3000 cal BC, but towards the end of the Neolithic (c. 2200 cal BC), several new groups appear in the archaeological record, one of these being the gallery grave, a tradition that includes the recently-excavated monument at Delancey Park, in north-east Guernsey, and four others within the island group as a whole (Fig. 6.1). This monument, in common with Le Couperon (St Martin) and Ville-ès-Nouaux (St Helier), on Jersey, comprises a rectangular chamber delineated by a series of large uprights: all probably trace their architectural and depositional influences to central and northern France. Unfortunately, both of the Jersey sites were excavated during the latter part of the 19th century, before the advent of chronometric dating. Furthermore, the finds from one site, Ville-ès-Nouaux, are now believed lost (but thoroughly reported in Hawkes 1937, 259–269). Moreover, the acidity of the soils has dictated the fate of any associated human remains, although elsewhere, in northern (Armorican) France, gallery graves such as Le Causée-Tirancourt and Chamant have collectively revealed evidence of around 450 individuals (Daniel 1960; Howell 1983; Bradley 1998). Such a substantial human bone assemblage suggests access to these monuments was rather less restrictive than it was for the earlier passage graves (Patton 1995, 70). It also demonstrates the probable temporal extent of such monuments, which, based on a number of French examples, may have extended over several hundred years (i.e. assuming human bone was not removed between interments).

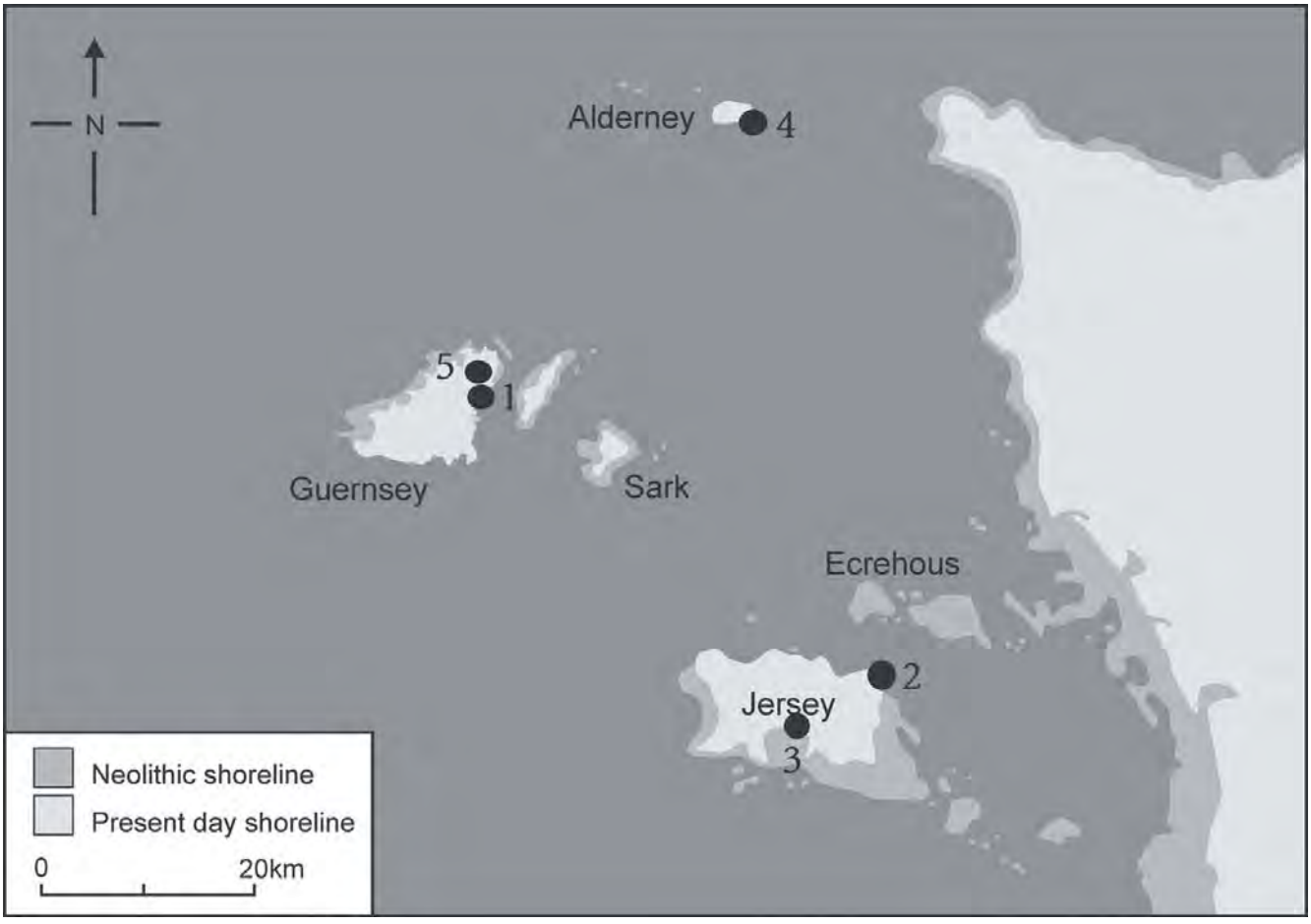

Figure 6.1 Distribution of gallery graves and possible gallery graves within the Channel Islands archipelago

Two seminal works published by Thomas Downing Kendrick (1928) and Jacquetta Hawkes (1937), respectively, did much to bring together the prehistoric archaeology of two of the largest of the Channel Islands. Both volumes reported investigations undertaken by contemporary antiquarians and archaeologists of note and considered the handful of discovered and excavated gallery-grave sites. These include Delancey Park and La Roque qui Sonne (Fig. 6.3), on Guernsey, Les Pourciaux, Alderney (Fig. 6.2) (Kendrick 1928, 174–175), and Le Couperon (Fig. 6.4) and Ville-ès-Nouaux (Fig. 6.5) (Hawkes 1937, 254–258 & 259–270), on Jersey. Clearly, based on the primary evidence reported in these volumes, all monuments appear to share similar dimensions and architectural traits with examples occurring elsewhere (Table 6.1). Arguably, however, the plan and morphology of Delancey Park are more problematic, due principally to poor or non-existent records surviving from the two excavation phases undertaken in the early 20th century. Furthermore, based on other extant gallery graves within the Channel Islands, all appear similar, but not identical, suggesting local variations on a theme. The excavation at Delancey Park, for example, revealed no evidence of an outer line of kerbing, although kerbing does occur at Le Couperon and Ville-ès-Nouaux.[2] Similarly, and based on a drawing made by F. C. Lukis in 1853, the chamber at Les Pourciaux (and Ville-ès-Nouaux) is paved, whereas stone pavements are absent from Delancey Park and Le Couperon.[3]

Delancey Park and its geological and landscape context

This region of Guernsey is characterised geologically by Holocene blown sands (loess) deposited by prevailing easterly winds (Smith 1981, 132). The uppermost deposit is intermixed with dark brown humic earths (derived from recent accumulative vegetation cover). These soils (A and B horizons) occur across the site to a depth of around 0.45 m. The underlying solid geology is St Peter Port gabbro, comprising a small layered intrusion of hornblende gabbro and bojite (calcium plagioclase – hornblende rock) local to this part of the island and consisting of small magnetite and sulphide-rich segregations (mineralisation: Magnetite, ilmenite and pyrite). The 24 surviving stones forming the uprights and capstones of the Delancey Park monument are of this material (numbered 1–24; see Fig. 6.9).

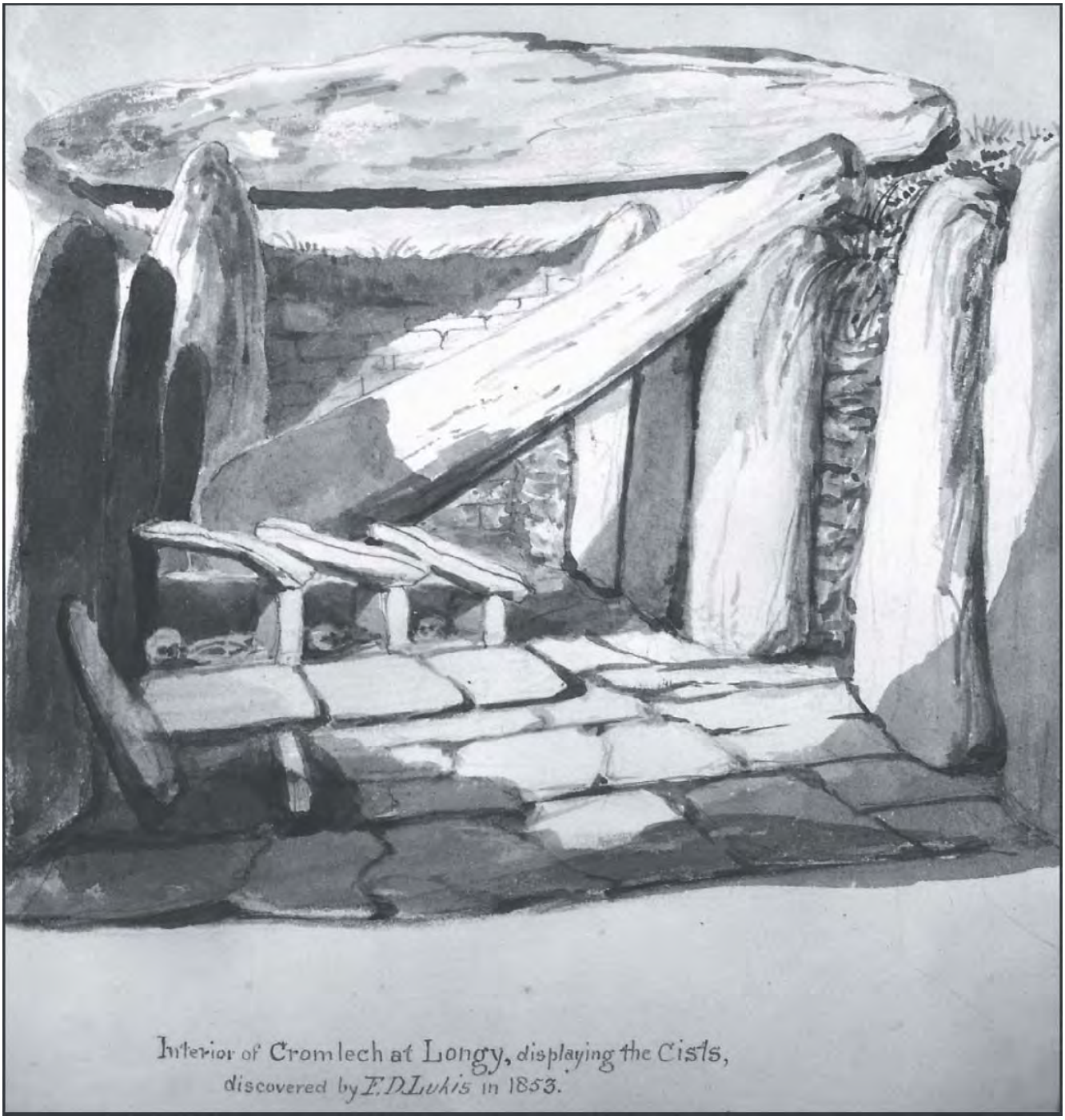

Figure 6.2 A sketch plan of Les Pourciaux, Longy Bay, Alderney, by F. C. Lukis in 1853 (courtesy of the Guernsey Museum and Galleries Service)

Figure 6.3 The destroyed La Roque qui Sonne monument, located in Vale parish, Guernsey

Figure 6.4 The gallery grave of Le Couperon, Jersey, looking north-east

Figure 6.5 View north-west depicting the gallery grave component of Ville-ès-Nouaux, St Helier, Jersey

Table 6.1 Comparative metrical data for a possible gallery-grave tradition in the Channel Islands

See Fig 6.1	*Site*	*Parish*	*Chamber length (m)*	*Width (m)*	*Kerbing (m)*	*Orientation*	*Distance from coast (km)*
1	Delancey Park	St Sampson	10	1.7	No	E/W	0.37
2	Le Couperon	St Martins	9	1	Yes	E/W	0.15
3	Ville-ès-Nouaux	St Helier	11	1.5	Yes	WNW-ESE	0.24
4	Les Pourciaux	St Anne	8	2	unknown	NW/SE	0.15
5	La Roque qui Sonne	Vale	unknown	unknown	unknown	unknown	0.7

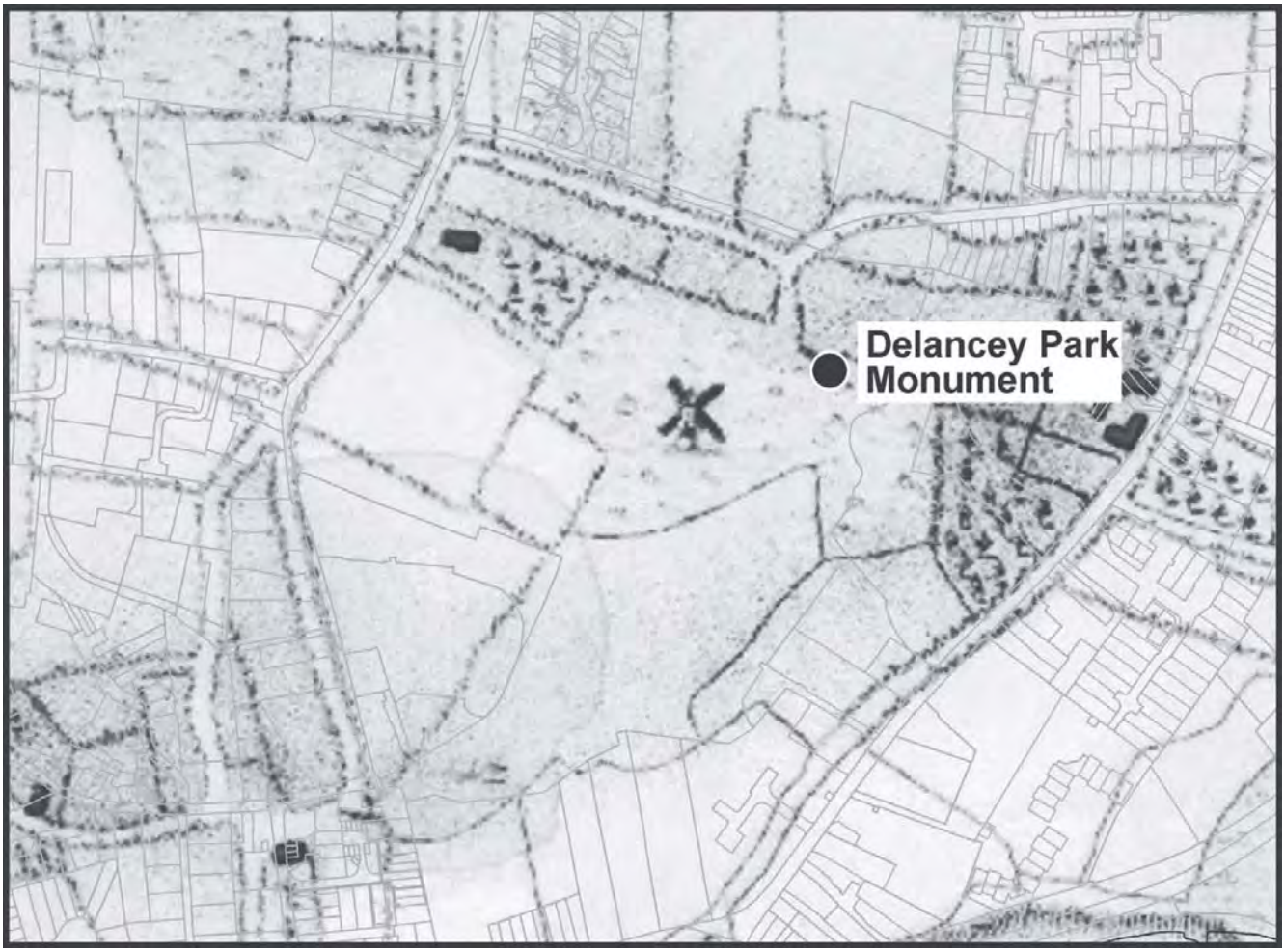

Figure 6.6 Extract from the Duke of Richmond map of 1787 showing the enclosed agricultural landscape and the site of Delancey Park

Today, the monument stands in an area of scrub vegetation pertaining to a 19th century formal park of the same name. The historic map evidence, particularly the Duke of Richmond map of 1787, depicts a set of rectangular and sub-rectangular field enclosures that were probably delineated by turf banks. This field system was later incorporated into the formal space of the park, which survives today as a public amenity.[4] The road (lane) network established around the field system and the later public park still survives. Access to the central field is from the north and west by way of Mont Morin and Rue des Monis. Within the central field, and occupying a slight south-facing slope, was a windmill; the Saumarez Monument of 1876 stands on the windmill site (Fig. 6.6).

Geo-referencing of the 1787 map over the Ordnance Survey map of 1938 indicates that the monument lay close to, if not actually beneath, an east–west field boundary. Johnston (1981, 99)

subscribes to this view and suggests that a dry stone boundary wall may have extended over the structure, thus affording it a degree of protection, although the capstones may have been removed and broken-up for use in the nearby military barracks, which were built in 1799 to accommodate Russian soldiers who had fought alongside British forces in Holland and Belgium (around the turn of the 20th century, the barracks were demolished to make way for St Sampson's School). The map also depicts the monument standing in what appears to be rough pasture.

The monument occupies an intermediate north-facing slope, approximately 370 m from the present shoreline at Spur Point (south-east of the site). Immediately to the south, the land rises some 30–50 m forming a short east–west ridge running across the north-east corner of the park, an area known as Le Monts. Although the environs of the monument presently support scrub vegetation and tree cover, clear visual access to the coastline once existed to the east and west; this also applies to other Neolithic burial-ritual monuments distributed around the coastal fringe of Guernsey. Until the early 19th century, Guernsey comprised two distinct islands separated by an east–west channel known as Braye du Valle; the smaller of the two islands was known as Clos du Valle (Fig. 6.7). This channel was subsequently infilled and the islands merged. When in use, the monument would have occupied a prominent headland on the main island overlooking Clos du Valle and the channel that separated them and would have shared vistas similar to those of other Channel Island gallery graves.

Delancey Park's early excavation history

The site was discovered in early 1919 following the removal of bracken and gorse[5] and ground-levelling within the north-east corner of the park. Workmen clearing the vegetation discovered two large stones lying side-by-side. The States Architect, T. J. Guilbert, instructed the workforce to treat this discovery with great care, believing that the stones formed part of a dolmen. Further stones were uncovered, nearly all 'oblong' in shape and in a 'perfectly natural condition'. Following the discovery, a report outlining these points was made in the *Guernsey Star* of 12 June 1919. The report not only dealt with this discovery, but also noted a nearby semi-circular arrangement of smaller stones, many of which, according to the report, had been broken up. Experts of the day, namely A. Collinette and T. W. M. de Guerin, suggested that the larger stones within the Delancey Park monument were the remains of a dolmen, the capstones being removed and broken up for use in the construction of a nearby military barracks. Within a year of its initial discovery, further excavations produced a small assemblage of artefacts, many probably contemporary with the construction and use of the monument.

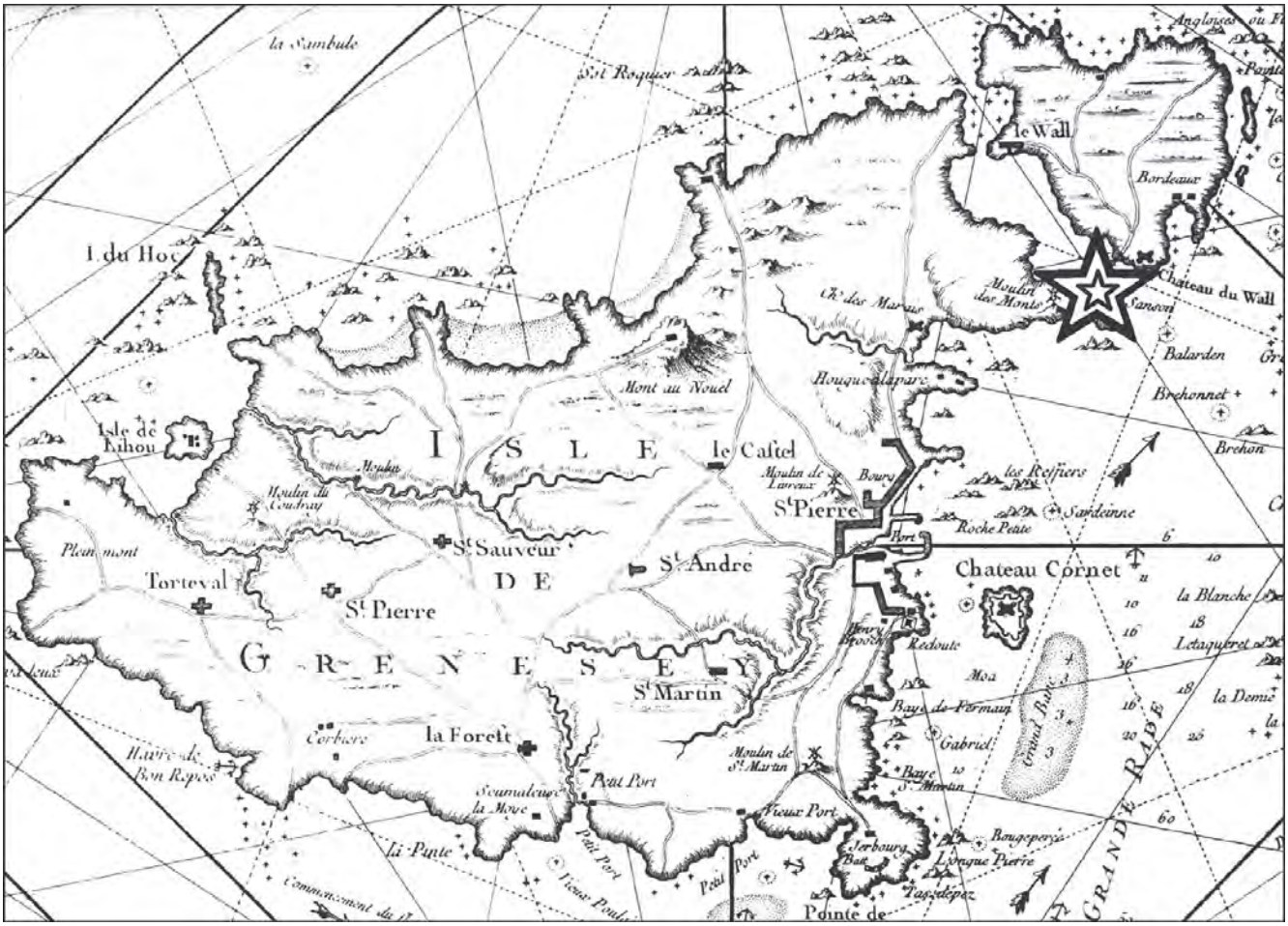

Figure 6.7 1757 map of Guernsey by Jacques Nicholas Bellin

The finds from the 1919 investigation, including fragments of ox bone, '*a few*' limpet shells, stone and pottery, was reported by Kendrick (1928, 174–175).[6] The pottery consisted of undecorated coarse gritty red and brown wares of varying thickness; several pieces were burnished. The stone tools included a fragment of fire-cracked greenstone axe (or rubber), a small collection of flint chips and four gun flints (probably 18th century). Based on the presence of a (questionable) axe fragment, the monument was probably in use around c. 2800 cal BC. However, the original whereabouts of this material is unclear.

Lying immediately beneath these stones, and recorded during the 1919 excavation, is a series of stones, some of which appear to have once supported granite blocks. During excavations undertaken at the site in 1932, the excavator, a Miss Collum, believed she had found the remains of a chamber at the western end although, based on the site images, the excavation consisted of recording only the deposits between the stones (Fig. 6.8).

In a letter dated 21 October 1932, Miss Collum refers to Delancey Park as an *allée couverte*.[7] This type of monument is usually found in central and northern France and generally comprises a rectangular chamber delineated by a series of large uprights (there are some instances of smaller antechambers leading off around the main chamber entrance). According to Patton (1995, 70), burial evidence is usually confined to the main chamber, with few or no human remains found in the antechamber. The monument type is relatively common in Brittany and around the Paris Basin, within the Seine-Oise-Marne cultural area, and dating to the 3rd millennium cal BC (Scarre 2002). Remains of

hundreds of individuals have been discovered in several such monuments. Daniel (1960, 215) has suggested that some *allée couverte* monuments were devoid of human remains and may have served as 'temples' or 'cenotaphs', commemorating rather than accommodating the dead.

Evidence of the excavation and its results are discussed in a short letter to Col. de Putron, a member of the excavation committee of La Société Guernesiaise. Apparently, the site had been cleared for excavation ('ready for digging') by two labourers employed by the state earlier that week. According to Miss Collum, the clearance revealed nine overthrown props on the north side whilst on the southern side four remained; the term 'prop' in this context probably referring to what the modern literature calls an 'upright'. Also noted was a probable entrance corridor (or gallery section) at the north-west end leading to a possible chamber, which was still buried by *made* earth. When excavation commenced, however, Collum recorded not a north-west chamber but a splayed entrance (or façade). This splaying (away from the monument) was delineated by a series of fallen stones and the respective socket holes; Collum suggests that they were (deliberately) tipped over.

The finds from this excavation included a small collection of animal bone, found within a disturbed (cultural) black soil deposit that directly overlay the natural light yellow clays. In the same deposit, around the socket holes, within the northern part of the monument, was also found a number of sherds of thick well-fired brown to red coarse gritty pottery representing at least eight vessels. According to Collum, the *interior* (gallery) had been cleared; however, as noted earlier, the excavation in 1932 was limited to the removal of deposits around the stones. It appears that none of the larger stones was removed for this excavation. The *in situ* position in 1932 of each of the stones is supported by digital images taken in April 2009 and the subsequent survey of the site in October of the same year. According to both sets of images and the plan, only one large stone on the southern side has been removed; its location is at present unknown. At the eastern end of the monument, at least two large stones, probably capstones, had been dragged from their original positions to the south; their removal is almost certainly the result of excavation of a section of the chamber.

Although the monument appears to be largely intact, Collum does suggest that a number of the capstones were removed and broken up in *c*. 1878 for foundation material to support the nearby de Saumarez monument; however, it is not clear which these were. It could thus be that the monument was much longer and extended further east and west than at present!

Making some sense from the 2009–2012 survey and excavation programme

The results of a measured survey, undertaken in 2009, hint at the possibility that up to five recumbent stones once formed the north-west side of the chamber (Fig. 6.9 and 6.10). Moreover, several on the southern side resembled stones similar to capstones found at the extant passage graves of Le Déhus and La Varde, both on Guernsey. Although Kinnes and Grant (1983, 48) described Delancey Park as an 'unclassified' monument, the measured survey began to reveal morphological detail. The survey, aided by several archive photographs from the 1932 excavations, revealed that limited change to the site had occurred (Fig. 6.8).[8]

The 1932 imagery revealed little systematic excavation. Moreover, the background vista from images taken in the eastern and western sections of the site revealed the coastline/sea to be clearly visible, correlating with the landscape status of the two Jersey gallery graves. Of the 24 stones that formed the Delancey Park monument, 18 were identified either as capstones or uprights; five of these

(Stones 3, 6, 7, 8, 9) were clearly uprights that had fallen northwards from their sockets (Fig. 6.9).

The 2010–2011 excavation seasons at the site comprised two elements – evaluation (in 2010), followed by targeted excavation. It was considered, based on the two 1932 images, that much of the archaeological stratigraphy within the northern section of the monument might be intact. The 2010 evaluation, comprising seven small trenches (Trench 1–7), revealed little evidence of subsurface structures (i.e. architecture) but did result in the recovery of a substantial quantity of finds, including a significant diagnostic and non-diagnostic lithic assemblage and ceramics. The lithic assemblage, mainly of locally collected flint and chert, could arguably be associated with any part of the Neolithic. Equally challenging were the ceramics, with some potsherds dating to the Early Neolithic. The evaluation, though, was concerned mainly with excavating either to the top of the first significant archaeological horizon or to the natural geology, whichever was encountered first. Trenches 2 and 5, located to the south-east of the monument and probably outside the immediate area of any structural remains, each extended to a depth of >1 m and revealed a clear stratigraphic horizon of historic and prehistoric naturally accumulated wind-blown sandy deposits. Notwithstanding the absence of potential later prehistoric structures revealed by the evaluation, all indications were that the 1932 excavation had merely ‘scraped the surface.’

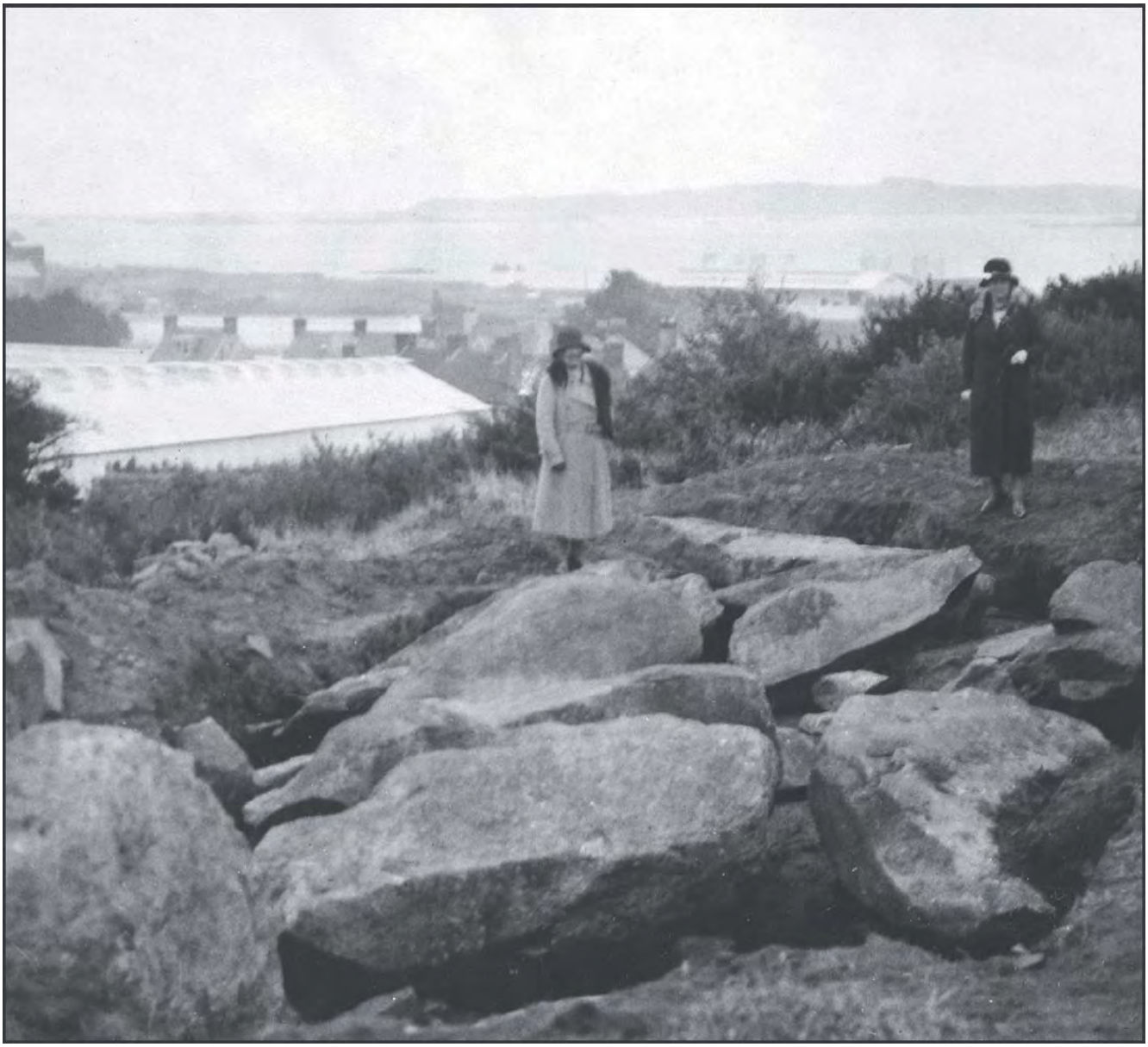

Figure 6.8 Image of 1932 showing the Delancey Park monument during excavation (courtesy of the Guernsey Museum and Galleries Service)

The 2011 excavation season took place partly as a result of information obtained during the 2010 evaluation. The excavation methodology involved excavating a linear open-area trench of 10 × 3 m along the northern section of the site, abutting the line of uprights that once formed the northern chamber-wall (Fig. 6.11). Trenches were also opened at either end of the gallery grave and in the southern portion of the site. The results were rather disappointing. Much of the site had evidently undergone extensive excavation, probably in 1919 when it was first discovered, although a number of anomalies and finds proved significant for determining the age of the monument.

Among the early 20th century disturbances, several (undated) stone sockets were recorded along the northern and southern line of the former-chamber walls. Unlike the monument's counterparts on Jersey, there was no evidence of socket holes relating to outer kerbing, although the possibility that these had been removed at some point during the two previous investigations cannot be discounted.

The northern side was initially considered to hold the key to understanding the function and form

of the monument, based on the observation that the low east–west embankment along the northern side of the site was an archaeological spoil heap, probably pertaining to the 1932 excavation.[9] It was considered that, potentially, the deposits associated with the spoil heap would be found to directly seal later prehistoric activity. Investigation of this area revealed, however, what appeared to be simply excavation activity. This activity extended to a depth of >0.5 m below present ground level and was attested by a number of early 20th century artefacts found at the base of the 1919 trenching.

Notwithstanding the absence of an east/west kerb-line marking the northern extent of the monument, a curious narrow band of highly organic soil was revealed in various sections in the core of the structure. This deposit was interpreted as a palaeosol representing the prehistoric land-surface on which the monument was constructed. The surface clearly lay below the early 20th-century excavation disturbance and was revealed in much of the trenching in the eastern and central sections of the site. Incorporated into this organic and datable deposit were three glass beads, each with a diameter of around 9.5 mm. Preliminary chemical-analysis by Nash and Towle (forthcoming) suggests an Early or Middle Bronze Age date and an Eastern European provenance.[10]

In terms of architectural features and structures, the 2011 season proved disappointing. Much of the central section of Trench 1 revealed heavy tree-root disturbance (Fig. 6.12). This trench (and the various associated areas within it) also revealed evidence of the 1919 excavation.[11] A previous trench appeared to cut through archaeological remains in the western portion of the site, affecting in particular a possible *in situ* cairn. Further evidence of earlier excavation-activity was encountered in the northern, central and western portions with the discovery of modern glass and pottery found at c. 0.45 m below present ground level. Significantly, clear cuts/truncations relating to this activity were visible in places (in an otherwise confused state). Evidence of this early 20th century investigation was further attested by the probable movement of Stones 21, 22 and 23 (see Fig. 6.9) from the northern to the southern line of stones. Several features/structures were, however, uncovered in areas where probable *in situ* later prehistoric archaeology survived. At the western end of the monument, Trench 6 revealed the remains of a disturbed stone-pavement (Fig. 6.13)[12], whilst in the south-east section/portion Trench 1 was evidence of a packing deposit that might have supported an upright on the southern side of the chamber (Fig. 6.14).

Despite the sometimes negative results from the final season, the rationale from the outset was to establish whether or not the Delancey Park monument was a gallery grave. As demonstrated, a number of stones lying in a recumbent position and forming two parallel rows have been moved during the recent past. This action alone might be said to obfuscate matters but inspection and subsequent survey of each of the stones has clarified whether these constitute fallen uprights (with probable sockets in place), capstones or moved/disturbed stones (Table 6.2).

As part of the conservation programme, this factor is all-important as there is a clear desire to re-erect five of the stones to illustrate how the monument might have appeared when in use. In terms of linearity and the general architectural grammar exhibited by other Channel Island gallery graves, Delancey Park fulfils many of the criteria of what such a monument should look like. As stated earlier, though, the two extant gallery-graves on Jersey have suffered sometimes insensitive and inaccurate restoration and even Delancey Park itself has failed to escape the ravages of well-intentioned archaeologists and antiquarians.

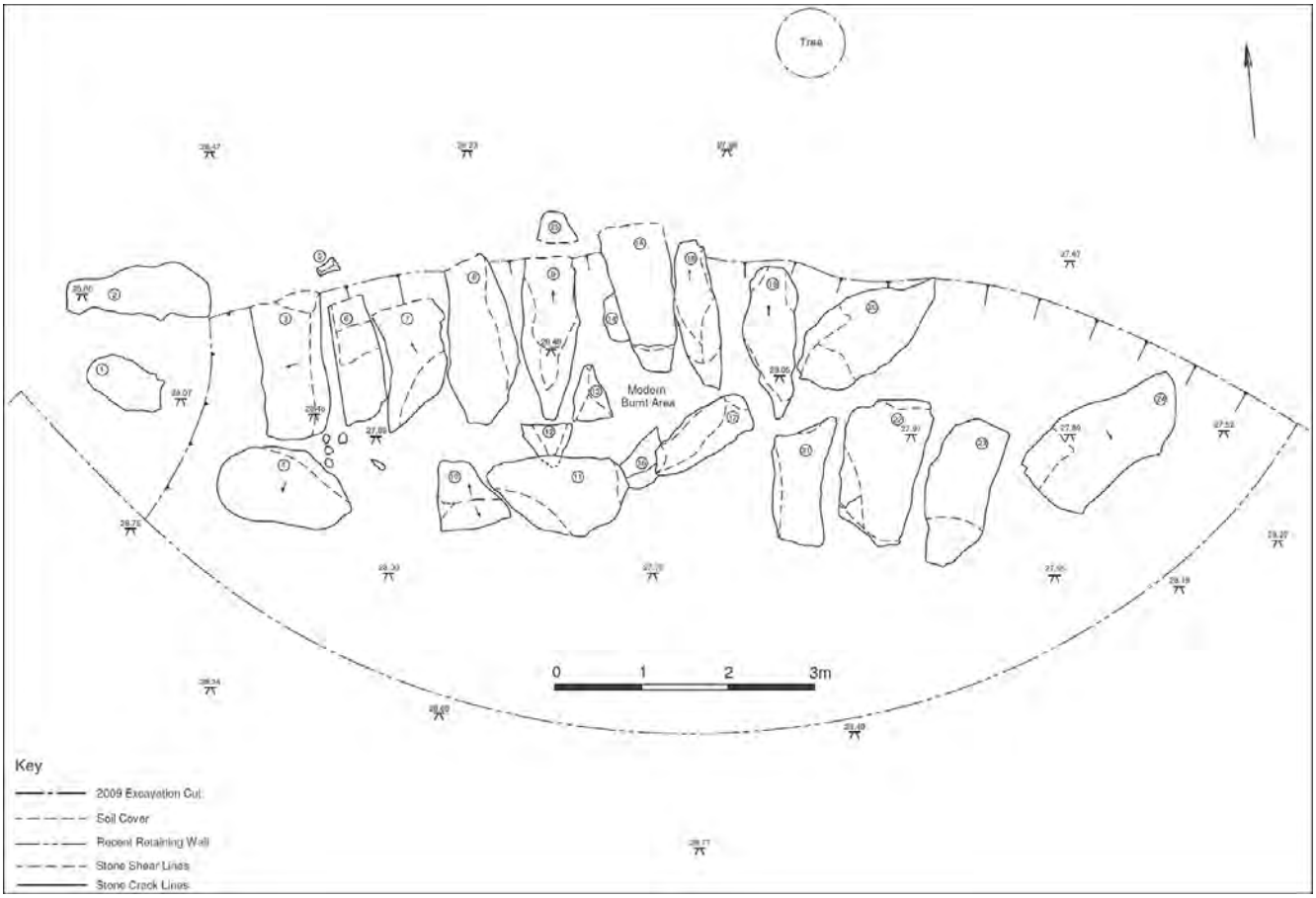

Figure 6.9 The first systematic plan of the Delancey Park monument, undertaken by the Clifton Antiquarian Club in 2009 (CAD drawing by Donovan Hawley)

Discussion: towards a distinct architectural heritage

The gallery grave is a relatively common form in Brittany and around the Paris Basin, which was in use during the mid- to later 3rd millennium cal BC (partly based on a distinctive ceramic sequence[13]) as a component of the Seine-Oise-Marne culture (SOM). This distinct architectural tradition probably evolved to become the *allée couverte*, a monument type generally lacking burial deposition and dating to the Late Neolithic (Daniel 1960; Kinnes & Hibbs 1988; Scarre 2002). Prior to the spread of the gallery grave tradition, a number of monuments, including passage graves, long mounds and portal dolmens, dominated the Neolithic burial-ritual landscape, although the present distribution probably represents only around 40% of the total number of monuments that occupied the archipelago before the wholesale clearance and reuse of the landscape after *c*. AD 1700 (Hibbs 1986, 209).[14]

Figure 6.10 The site prior to excavation

Figure 6.11 An aerial image of the site depicting the principal trenching from the 2011 excavation season (image by Laurie Waite)

Architectural components from each of these generic monument groups appear to have been incorporated into later monuments, such as gallery graves, giving rise to a gradual process of hybridisation. However, unlike the preceding tradition, the distribution of gallery graves is restricted to around 40 extant monuments occupying a narrowly circumscribed geographical range encompassing northern France and the Channel Islands (Daniel 1960). Outside this area, only two extant gallery graves can be clearly identified on the British mainland, both in south Wales. These are Bedd yr Afanc, in Pembrokeshire, and Heston Brake, Monmouthshire, their existence evidently attesting to possible cultural and economic links between South Wales and northern France/the Channel Islands zone.

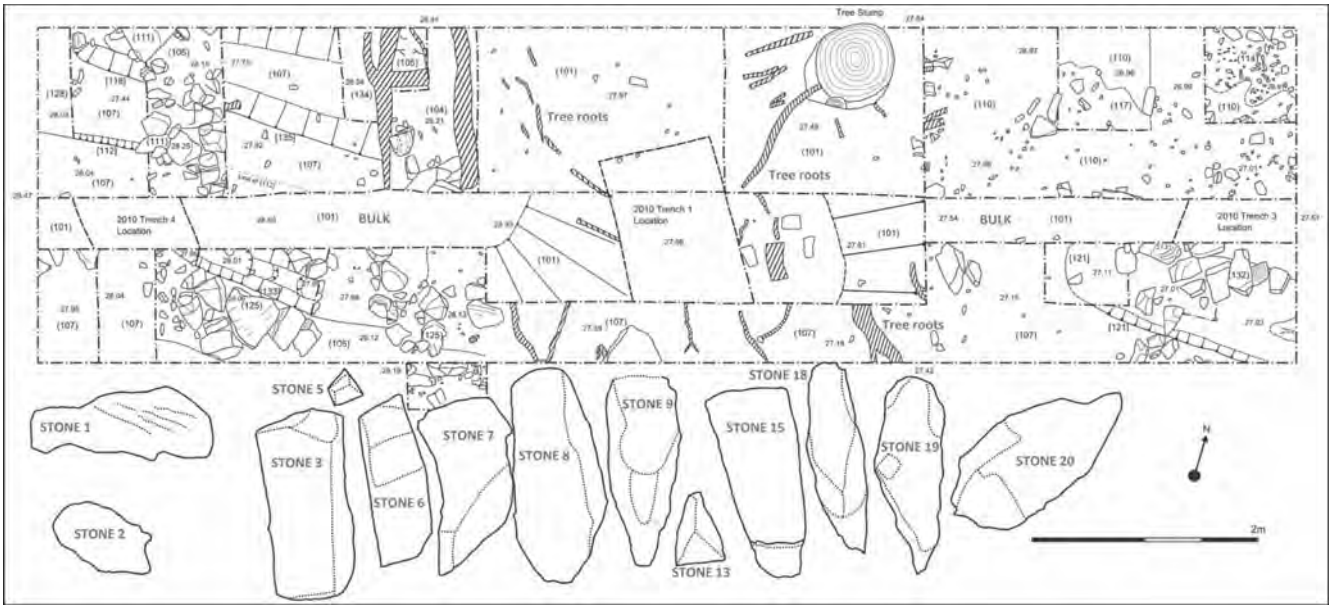

Figure 6.12 Plan depicting the final features and deposits excavated in Trench 1, located north of the northern line of stones

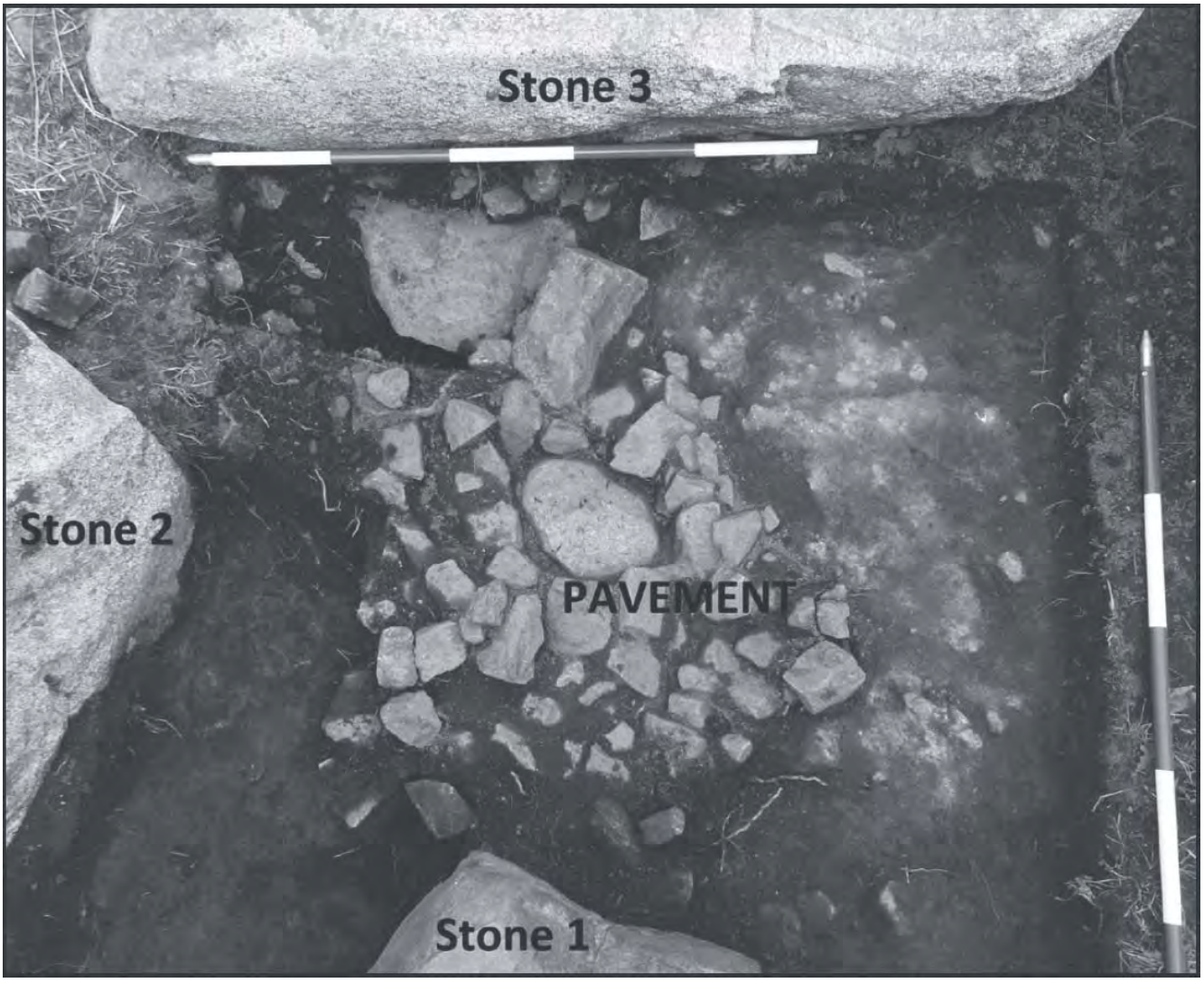

Figure 6.13 Possible remains of an in situ pavement at the western end of the monument in Trench 6

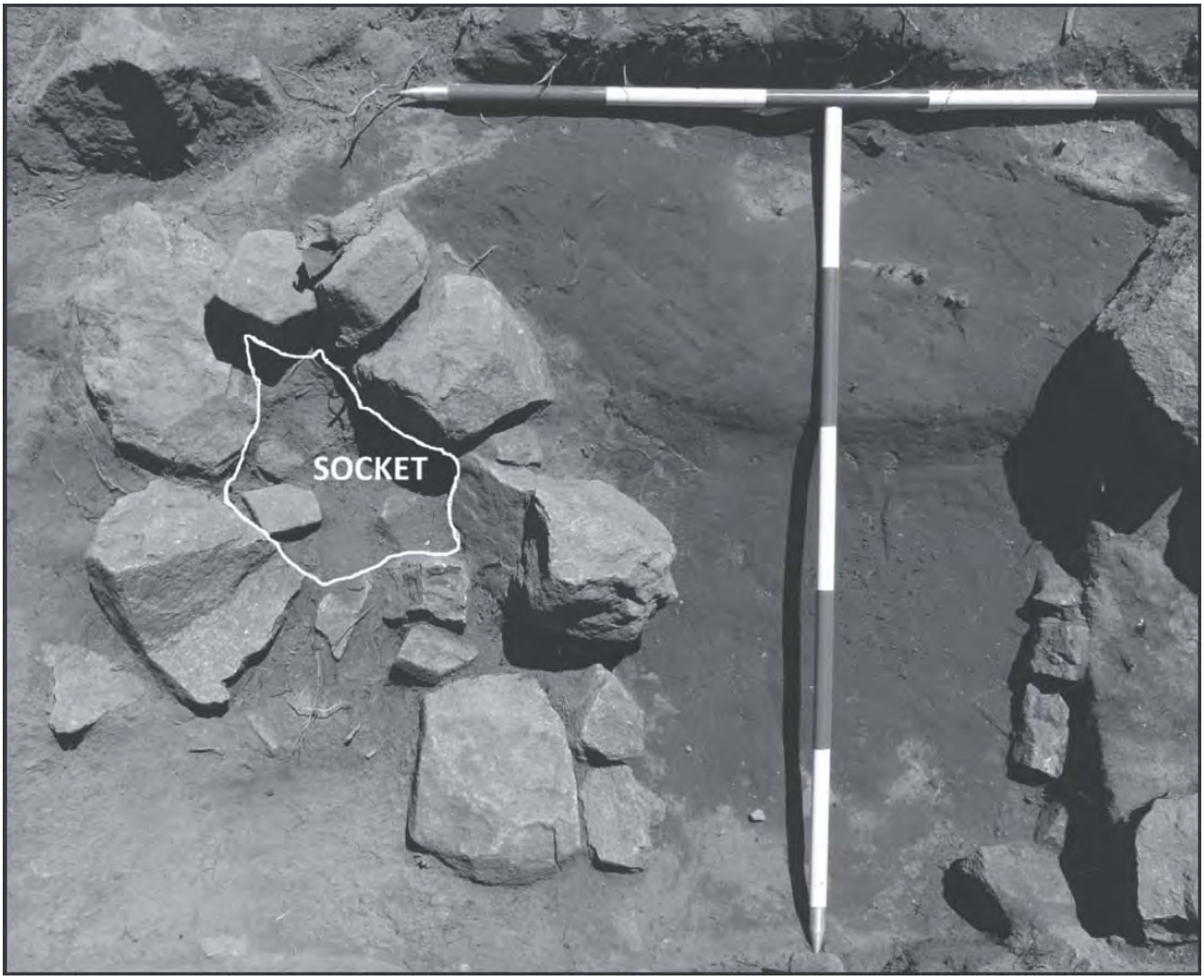

Figure 6.14 Excavated lower section of a socket and packing revealed at the south-east portion of Trench 1

I have previously argued that each Neolithic monument group conforms to a set of primary and secondary architectural rules. Primary architectural grammars usually involve four basic components: the covering mound, façade/entrance, passage and chamber (Nash 2006; 2012). Associated with these elements is monument orientation, location (e.g. Tilley 1994) and construction materials (e.g. Tilley 1991). Nearly all of the extant monuments of Neolithic Europe comply with this primary grammar, with each community evidently asserting its identity by varying the basic design of each component in some way. Monuments could also be subject to alteration, refurbishment and extension over time, while more radical remodelling might be consistent with wider Neolithic trends, such as the addition of horns to the large passage grave of La Hougue Bie in Jersey (Nash 1998). These horns, positioned on either side of the entrance, appear to replicate the horn arrangement of the Cotswold-Severn group in Southern Britain and the practice was probably imported at a time when both sets of monuments were in use. Similarly, Patton argues that not all gallery graves possessed covering mounds (Patton 1995, 71), among them, I believe, the Delancey Park monument which would have stood proud within a prominent ritualised landscape.

Table 6.2 Individual stone identification for Delancey Park

Stone No.	*Upright*	*Capstone*	*Unknown*	*North or south row*
1			X	–
2		X		N
3		X		N
4		X		S
5			X	–
6	X			N
7	X			N
8	X			N
9	X			N
10			X	–
11		X		S
12			X	–
13			X	–
14			X	
15	X			N
16			X	–
17	X			S
18	X			N
19	X			N
20	X			N
21	X			S
22	X			S
23	X			S
24		X		N
25			X	–

In terms of compartmentalising the architecture of Delancey Park, there are probably associations with the passage and chamber components of the passage grave tradition. Indeed, historic mapping, supported by several documentary sources, identifies Delancey Park as a passage type monument. This early interpretation may be based on the arrangement and linearity of the 24 fallen stones that represent uprights and capstones (Kendrick 1928, 154; Cox 1976, 17). It is only relatively recently that Delancey Park has been classified as a gallery grave, first by Johnston (1981, 99) and subsequently by Fothergill (2006) and by Nash (2011a; 2011b).[15]

Delancey Park possesses a number of distinct characteristics associated with the Late Neolithic SOM (Bailloud 1964; L'Helgouach 1965). Unlike its passage-grave cousins, though, this monument (and others) differs substantially in terms of architectural morphology, spatial organisation and depositional mortuary practices (Patton 1995, 69). These changes in mortuary construction and practice probably reflect wider social and political developments in the Late Neolithic, probably the result of an intensification of contact and exchange along the Atlantic Seaboard (Cunliffe 2001).

In terms of monument building within the Channel Islands, the primary grammar, including orientation of both the passage grave and the gallery grave traditions, is arguably similar. The fundamental difference, however, is that a secondary grammar applies the passage component of the passage grave to form the chamber of the gallery grave. The gallery grave is usually subdivided to form a principal chamber and an antechamber, comprising upright stones supporting a number of capstones. Similarly, at the passage graves of La Hougue Bie and La Pouquelaye de Faldouet, in Jersey, the passage is partitioned using openings/entrances, thresholds and roof lintels. It is probably the passage component that was adopted by Late Neolithic Channel Island communities to create the galleried chambers of Delancey Park and the two gallery graves on Jersey. Significantly, orientation, at least in part, supports this hybridisation of mortuary design. Passages belonging to Jersey passage graves and the chambers of the Channel Island gallery graves extend along an east/west alignment whilst the chambers at, for example, Les Monts Grantez, La Hougue Bie, Mont Ubé and La Pouquelaye de Faldouet are orientated north/south. A similar temporal relationship is attested in the passage graves of Guernsey.

Although Kinnes and Hibbs (1988, 15) refer to gallery graves as possessing 'simple rectangular chambers', their simplicity is also their complexity. Artefact and burial deposition (which is complex) aside, stone alignments forming the walls of the chamber exhibit several idiosyncratic features that make them far from simple. At the much remodelled Le Couperon site in north-east Jersey, a porthole stone or *dalle trouée*, may have been used as a device to subdivide the chamber into, say, male and female areas (Fig. 6.15). There are many parallels in northern France, some with carved decoration, and in southern Britain the porthole is sometimes used in the construction of (earlier) Cotswold-Severn monuments (e.g. Belas Knapp, Rodmarton and Thornwell Farm).

From its discovery in 1919 through to the recent past, the actual morphology of the Delancey Park monument has been difficult to determine, an issue arising partly from the condition and past management of the site; for much of its recent history, the stones have been obscured by undergrowth, which has hampered attempts to carry out survey work. This factor alone is sufficient to account for the site's ambiguity, although, somewhat ironically, it has helped to ensure its survival. However, the sketch plan made of the site in 1920 by Leonard Preston depicts a clear stone-by-stone plan of the gallery grave (Fig. 6.16).[16]

Figure 6.15 The porthole stone at Le Couperon, now incorporated into the eastern end of the monument

Based on the morphology of the two stone-alignments, it is more than likely that Delancey Park is a gallery grave exhibiting possible parallels with those of Ville-ès-Nouaux and Le Couperon, on Jersey. The gallery grave of Ville-ès-Nouaux, discovered in 1869, is associated with a nearby cist-in-circle and has similar architectural features to Le Couperon, a second gallery grave located on the north-east coastal fringe of Jersey (Falle 1734; Oliver 1870). At Les Pourciaux North, on Alderney, F.C. Lukis sketched a monument in 1853 which suggested, based on its two *c*. 8.5 m long parallel lines of upright stones, that it too was a gallery grave (Johnston 1981, 131; Hibbs 1983); unfortunately, the monument was largely destroyed when a gun-emplacement was built over it during the Second World War. The two Jersey gallery graves, a possible example on Alderney and the Delancey Park monument, possess similar landscape and morphological attributes and lie on, or close to, the shores of their respective islands, features that are closest to their cousins on the Armorican Peninsula of France. According to Hibbs (1986) though, well over 60% of monuments on Guernsey may have been removed for one reason or another, thus skewing the evidence of monument distribution. I could suggest that gallery graves may have existed further inland, for now though this is unlikely to be the case.

Kendrick (1928) also recognises La Roque qui Sonne in Guernsey as a possible fifth gallery grave.

However, this largely-destroyed monument is situated approximately 0.75 km inland, and hence its landscape status differs from that of others within this group. Furthermore, little of its original plan survives, making any attribution problematic.

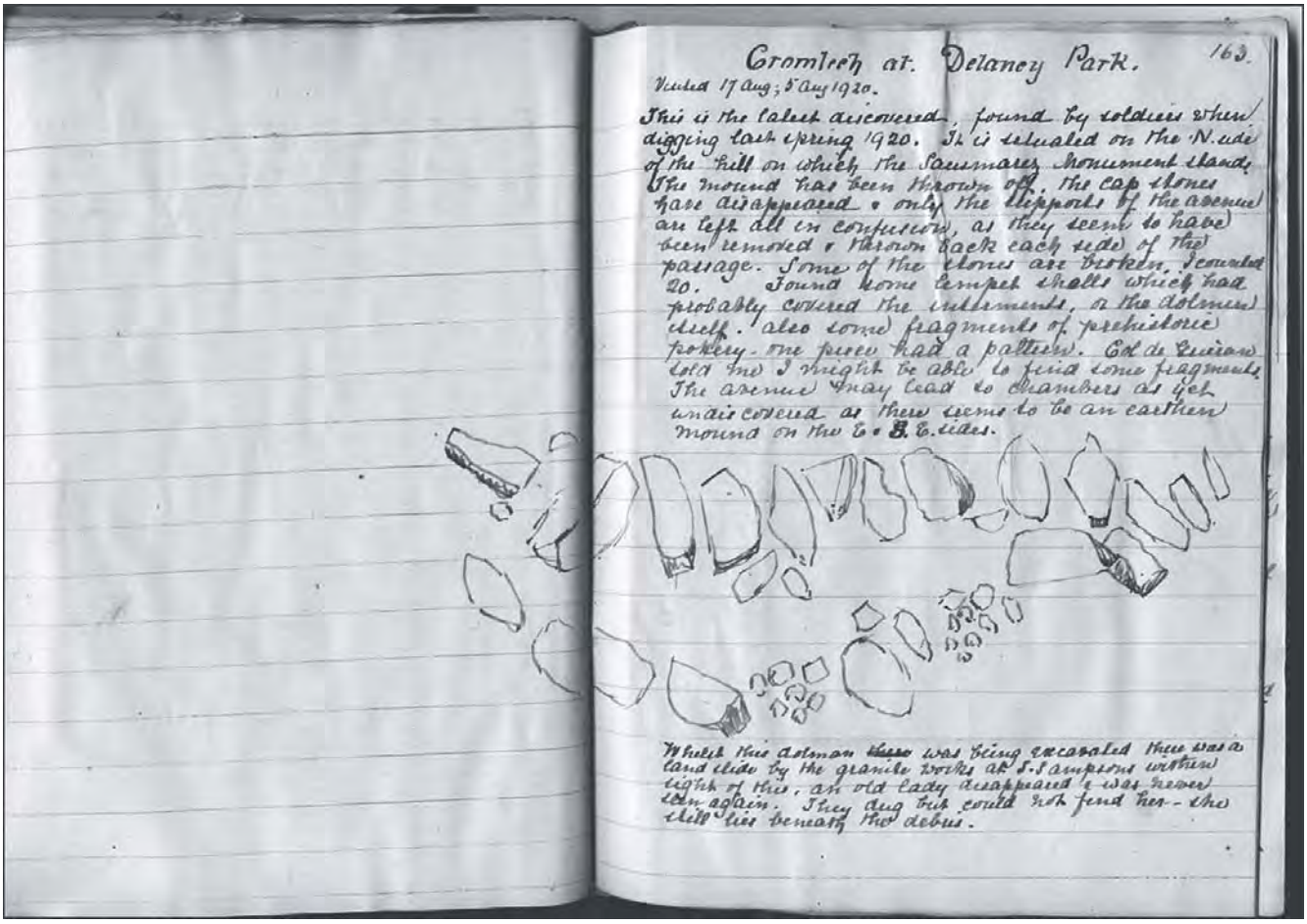
Cromlech at Delancy Park. 163.
Visited 17 Aug; 5 Aug 1920.
This is the latest discovered, found by soldiers when digging last spring 1920. It is situated on the N. side of the hill on which the Saumarez monument stands. The mound has been thrown off, the cap stones have disappeared & only the supports of the avenue are left all in confusion, as they seem to have been removed & thrown back each side of the passage. Some of the stones are broken. Secured 20. Found some limpet shells which had probably covered the cultivements, & the dolmen itself. also some fragments of prehistoric pottery. one piece had a pattern. Ed de Lisle told me I might be able to find some fragments. The avenue may lead to chambers as yet unaircovered as there seems to be an earthen mound on the E. & S. E. sides.
Whilst this dolmen was being excavated there was a land slide by the granite works at J. J. Lampens workmen right of this, an old lady disappeared & was never seen again. They dug but could not find her - the still lies beneath the debris.

Figure 6.16 Plan of the Delancey Park monument from Leonard Preston's field notebook dated 1920

The Delancey Park monument has, since 1919, been investigated on three occasions. Despite the lack of proper site-records and field notes from the 1919 and 1932 excavations, enough information was disseminated to suggest, at the least, that it belongs to a diverse and complex group of burial-ritual monuments with origins firmly rooted in the Late Neolithic. Based on the various artefact assemblages, the use of such monuments probably extended into the succeeding Chalcolithic and Bronze Age periods, (although no clear Chalcolithic material has been found). Notwithstanding this, the acidic nature of the soil on which the monument is constructed largely diminishes any potential for the survival of human remains and other potentially datable material. Fortunately, the 2009–2011 interventions did not entail full excavation of the chamber area where the collapsed uprights and capstones currently lie recumbent; any future excavation within this area will, it is hoped, close another chapter in the monument's rather complex history.

Acknowledgements

The author would like to thank Philip De Jersey and Tanya Walls (Guernsey Museum and Galleries Service) for providing copies of the primary documentation associated with the discovery and

recording of the Delancey Park monument, in particular access to the W. C. & F. C. Lukis Collection. Finally, thanks to George Children, Andy Townsend and Paul Driscoll for providing useful comments. All mistakes are of course my responsibility.

Notes

1 Based in Bristol.
2 At Ville-ès-Nouaux, one line of kerbing on the southern side appears to have been removed prior to discovery and excavation (Hawkes 1937).
3 The impact of recent disturbance affecting these and other later prehistoric sites cannot be ignored.
4 Several cropmarks relating to the former field system are visible on recent aerial imagery, as is the eastern line of a track that once led from Mont Morin into the central field from the north.
5 Also referred to as *furze*.
6 A small assemblage of material is housed within the Guernsey Museum archive.
7 Museum Archive Ref: 192.
8 One stone located on the southern side of the monument had been removed, its whereabouts unknown.
9 A section of this embankment was recorded in Leonard Preston's sketch plan of 1920.
10 These items, along with other finds, including a stone mace-head and diverse ceramic and lithic assemblages, are currently being analysed.
11 As far as the author is aware, there are no field notes relating to this excavation, except possibly for a sketch made in 1920 by Leonard Preston (see Fig. 6.16).
12 A contaminated radiocarbon sample was taken from a deposit to the left of the pavement.
13 Also found during the Delancey Park excavations.
14 Hibbs (1986, 209) suggests that up to 140 monuments throughout the archipelago were upstanding until the early post-medieval period.
15 These authors have based their assumptions on a letter to the La Société Guernesiaise from Ms V. C. C. Collum in October 1932.
16 dated 17 August 1920.

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7

Re-viewing the megaliths of northern Guernsey

Kevin Jelly

This chapter favours landscape and phenomenological approaches to broaden our understanding of changing landscape-monument relations during the local Neolithic of the Clos du Valle and Braye du Valle (northern Guernsey, Channel Islands). Recent data allows more detailed reconstructions of the areas past tidal zones and sea-levels (Jelly 2011; Sebire & Renouf 2010). These have been used to support arguments for Guernsey's homogeneity throughout the local Neolithic (Jelly 2011) and van Dommelen's (1999, 283) assertion that exclusively sacred landscapes are inherently questionable. The same digital elevation reconstructions are used here alongside spatial and visibility data for both megaliths and symbolically significant natural features to identify distinct chronological patterns and provide afforded sea-view viewshed and afforded intervisibility data. The intention is to move this account away from previously site-driven assessments and establish a range of data for revising the way megalithic activity is considered; both in terms of elucidating changing characteristics of, and relationships between, the area's symbolic features – be they naturally occurring or megalithic – and their evolving natural environment. Based on this rationale, do patterns of placement, intervisibility and preference for sea-views amongst the surveys symbolic megaliths and natural features conform to clear patterns…either solely within the survey area, the archipelago, or relative to the adjacent French mainland?

The Channel Islands are located off the north-west coast of France within the gulf of St Malo and form part of the pre-Cambrian North Armorican Massif. Jersey (116 km^2) is the largest and most southerly island, located 56 km north of Brittany, 24 km west of Normandy and 160 km south of England. Guernsey (78 km^2), positioned 24 km north-west of Jersey is the second largest island and the archipelago's oldest. While there has been renewed acknowledgment of, and academic interest in,

Channel Island megaliths since the 1980s, most research focus was confined to the individual site level or involved them peripherally in European demographic models and/or regional cultural classifications. Both discussions have advanced over the last decade and under the umbrella of a European-wide comparative contextual framework archaeology and anthropology have reassessed old and formed new, more localised, models of human activity with greater confidence. This chapter complements research activities either underway or recently published that are illuminating local idiosyncrasies as well as cultural interactions with mainland Europe, the United Kingdom and within the archipelago itself.

Research here focuses on an area of one island that includes a re-silted natural tidal channel, Guernsey's Clos du Valle and Braye du Valle (Fig. 7.1). Recent data allows more detailed and accurate reconstructions of the areas past tidal zones and sea-levels (Jelly 2011; Sebire & Renouf 2010). These have been used to support arguments for Guernsey's homogeneity throughout the local Neolithic (Jelly 2011) and van Dommelen's (1999, 283) assertion that exclusively sacred landscapes are inherently questionable. The same reconstructions are used here alongside spatial and visibility data for both megaliths and symbolically significant natural features to identify distinct chronological patterns and provide sea-view viewshed and afforded intervisibility data. The intention is to move this account away from previously site-driven assessments and establish a range of data for revising the way megalithic activity is considered; both in terms of elucidating changing characteristics of, and relationships between, the areas' symbolic features – be they naturally occurring or megalithic – and the evolving natural environment. Do patterns of placement, intervisibility and preference for sea-views amongst the surveys symbolic megaliths and natural features conform to clear patterns, either solely within the survey area, the archipelago, or relative to the adjacent French mainland?

Questions over the cultural and geographical provenance of Guernsey's seafaring colonizers – Jersey or farther afield – are influenced by data inferring the similarity or idiosyncrasy of architectural practice between islands of the archipelago and the Breton/Norman mainland. Although strontium isotope bone analysis could resolve the question of a 'people' or 'ideas' migration (Sjögren *et al*. 2009, 85; Sebire & Renouf 2010) there is still value in addressing the Channel Islands' contrasts in megalith architecture to acquire data for contribution to regional models. In particular, this chapter provides complementary data to recent work in Alderney investigating affordance based preferences for sea-views (Gillings 2009) and supports revision of architectural classifications for some of Guernsey's megaliths (Nash 2011a; 2011b).

Contemporary geography and environment

The survey area forms the northern lowland section of Guernsey. Most of the contemporary landscape that is not urbanised or cultivated can be summarised as a predominantly gently undulating heathland with sand-dunes and isolated hillocks that support grasses and established patches of perennial common gorse (*Ulex europaeus*), the occasional blackberry (*Rubus species*) and bracken (*Pteridiom aquilinum*): McClintock (1975) offers a full island flora profile. Primarily motivated by Crown subsidies on land reclamation the Braye du Valle channel was left to silt-up at the start of the 19th century (Curtis 1935) and it is now urban and agricultural lowland. Only the protected western end belies its original and ancient state as a freshwater marsh and provides sanctuary to large numbers of local and migratory birdlife as well as endemic flora. The area's coastline consists of rock promontories

and sand or pebble beaches.

Figure 7.1 Northernmost section of Guernsey, Channel Islands. Areas subject to research here marked out as 'Clos du Valle' and 'Braye du Valle' (imagery provided by Google Maps 2011)

The complex geology of Guernsey is divided into two diverse parts (see Roach *et al*. 1991). Contrasting to the largely metamorphic gneiss formations forming the bulk of the island's south, its north is a collection of plutonic rocks that have been weathered and eroded to form a lowland region. The Bordeaux Diorite Complex is a suite of coarse-grained, dark, intermediate igneous rock types that dominate the northern third of Guernsey (biotite hornblend diorites, hornblende biotite granodiorites, and tonalities). Central along the island's northern coast is the associated L'Ancresse Granodiorite (a medium-grained and equigranular granitic type with a lighter coloration), an often pink-tinted stone noteworthy in an archaeological context for its transportation and use in elements of La Varde passage grave (Bukach 2003, 27). Last, the northernmost portion (south-east within the survey area) of the St Peter Port Gabbro is an extremely unusual and possibly unique composition of multiple hornblende-bearing gabbros (bojite, plagioclase feldspar, 'birds eye' gabbro, hornblende gabbro, leucrocratic gabbro, amphibole, green amphibole, orthopyroxine bronzite and gneissose). Not surprisingly, the solid geology has had a profound impact on the way ancient people shaped Guernsey's past.

More complex is the drift geology that date to the Quaternary and Holocene eras. With the exception of the Braye du Valle – which has undergone extensive erosion and reformation, the sediment layers above the bedrock in the research area generally consist of 2–3 m of complex

Quaternary stratigraphy that is usually associated with the underlying solid geology. Where coastal erosion has been significant this can be readily observed, and at some locations Neolithic flint core and debitage protrude from the stratigraphy. Additionally, indication of dense woodland is often present in the Mesolithic and Early Neolithic layers. Clearly defined MIS 5e beach composites are followed by sandy deposits accumulating initially via local redistribution processes as sea-levels receded and later through prolonged regional patterns caused by sustained north-westerly and westerly winds (Antoine *et al*. 2003, 310). Loessic deposits that are abundant on the island plateau and elsewhere locally are not evident within the research area. Here we find thick sand depositions which began encroaching on areas of agricultural viability around 100 BC. A situation which came to a climax by AD 1100 when documentary evidence notes intrusions could be so severe that emergency evacuations and dwelling abandonment in the middle of the night were sometimes necessary (Kinnes & Grant 1983, 37). Finally, the top 10–15 cm of decaying root and plant stems mixed with shell and sand simulates a similar soil structure of dry heathland peat (Rees 1930, 55).

Reconstructing the Neolithic

Space, and the underlying topic of this tome, precludes the inclusion of wider research undertaken to both assess and establish initial models of sea-level change during the local Neolithic as well as identify new opportunities to locate elusive secular/settlement archaeology (Jelly 2011). However, elements from that work are utilised here and should be briefly discussed.

Renouf (Sebire & Renouf 2010; Renouf, pers. comm.) has discussed the possibility of an explicitly local sea-level curve for Guernsey that differs from Lambeck's (1997: Cherbourg, Fig. 7.5) in two significant aspects; it is calibrated to Guernsey Datum which results in substantially higher sea-levels and proposes negligible increases post the BC/AD divide. Using this as a foundation, further adjustments were made to consider variables such as long-term change in tidal range and how rates of erosion may have been affected by differences in average high tides and Spring tides. From the resulting curves, changed Neolithic Spring Tide High Water lines (HWST), average High-Tide (HWAT) and Mean Sea-Levels (MSL) at dates relevant to local megalithic architectural/cultural phases were used to generate digital models of MSL, HWAT and HWST extents on a TIN format terrain layer within ESRI ArcGIS v9.3. The TIN layer was created using the *3D Analyst create TIN* toolbox function from a 1 m interval topography 'shapefile' with full WGS84 spatial referencing kindly provided by DigiMap Guernsey Ltd. (Guernsey Base Mapping © States of Guernsey 2013). Elevation *symbology* was then manually classified to correlate to changing tidal zone contours for displaying MSL, HWAT and HWST data. The models were foundations for re-contextualizing and re-viewing megaliths and symbolic natural features during subsequent intervisibility and sea-view viewshed activities.

Megalith archaeology of the survey area

The Channel Islands are known for their diverse wealth of megaliths dating back to the Early Neolithic. A high density remains extant on Guernsey's modest 78 km^2, although 19th century records indicate many more were once *in situ* (Hibbs 1986, 210). In stark contrast settlement sites are scarce, both locally and on the neighbouring mainland coastlines of northern Brittany, western Normandy and south-west England (Mills 1985, 39; Holgate 1985, 51; Bowden *et al*. 1991, 111; Scarre 2001, 285).

Although only representative of the northernmost area of Guernsey, the Clos du Valle and Braye du Valle still host numerous megalithic sites of varying age and architectural style. The earliest indication of human activity was discovered during the 1979–1981 Les Fouaillages long barrow excavations (Kinnes & Grant 1983). Mesolithic (c. 5500 cal BC) flint tools were identified in a dense woodland layer alongside the tomb proper, which itself is notably old (c. 4500 cal BC). Its multiple phases and associated Early Bronze Age settlement evidence initially suggest on-going use, however, for reasons unknown it was filled, sealed and unaltered between c. 4000–3000 cal BC. Half a kilometre north and on the Clos du Valle's highest elevation, is the La Varde passage grave and roughly 2.25 km east is another, Le Déhus. Although both were clearly used c. 3500–2000 cal BC, recent AMS dating at Le Déhus suggests an age of c. 4000 cal BC. Importantly, the site includes a re-used engraved menhir as one of its chamber capstones (Cassen *et al*. 2015). On a high elevation south from Le Déhus are the sad remains of La Rocque Qui Sonne gallery grave. Had it not been quarried for construction and ballast it would be the island's largest megalithic structure. Similarly, a few kilometres to its south at an elevated periphery of the Braye du Valle are the robbed and collapsed remains of the Delancey gallery grave. Both are substantial tombs that hint at the sizeable workforce required for their construction alongside an ongoing lacuna in settlement evidence. Amongst these larger structures are several menhir and numerous cists of varying types – including the local cist-in-circle. Unfortunately, records attest to the destruction of many megalith sites for construction material or due to conflicting belief. Additionally, the number lost prior to antiquarian investigation or undiscovered amongst urbanisation, private property and common lands will remain an unknown.

Cultural adaptations at the advent of metal use appear to mark the end of most sites being used for depositional activities c. 1800 cal BC, although the exact combination of factors influencing the rapid changes seen in burial practice and population decline remains unclear. Sea-level reconstructions suggest the loss of resource-rich salt-water marshlands at the Neolithic's end (Jelly 2011) and Herm's low-lying agricultural land – very similar to the Clos du Valle – was extensively cultivated in cycles of decreasing fertility until crops directly abutted tombs (De Jersey *et al*. 2012). With the cultural absence of a marine diet (Sidell & Haughey 2007, 44; Schulting 2004, 23; Schulting *et al*. 2010) ever-increasing population densities required matched expansion of cultivatable land and/or improved agricultural returns to help maintain social order. On small islands such basic economic pressures are acute and may have led to internal conflict and/or emigration. It has also been suggested that Guernsey came under attack from raiding Eastern European migrants (Marr 2001, 216); however, evidence to firmly support any one model remains elusive. Regardless of their decline and final abandonment, the substantial megalithic presence co-existed with their respective cultures for nearly three millennia; such longstanding social importance must have secured places in their physical, mental and spiritual landscapes (Edmonds 1999, 488). Indeed, some retain reverence through on-going transmission of myth (Henry 2008, 3).

The feature list – including those finally excluded – can be found in Table 7.1, and in-scope features are also depicted in Figure 7.2. All extant or well-documented megaliths are represented and have been ordered into a ranged chronology based on architectural style, associated finds and scientific dating. Megalith type is ascribed for documented sites based on records available, as is the Guernsey Monument Code and site orientation. This author believes the current association of La Rocque Qui Sonne as a passage grave needs reconsideration. A pair of orthostats and a 4 m capstone remain *in situ*

with pre-destruction descriptions stating the existence of at least nine more to its west and a possible three eastwards. The size of capstone required for a passage grave's chambered end where the entrance is already 4 m wide is wholly out of local context and precedent. The structure fits much more clearly into the chamber-less gallery grave or *allée couverte* typology. Furthermore, an absence of associated Early Neolithic finds but the presence of copper and Late Neolithic pottery also suggests later use – as with the recently re-classified Delancey gallery grave directly south across the Braye du Valle (Nash 2011a; 2011b). The oft cited and elusive 'passage grave' at Fontanelle Bay has been excluded. Although its exact location has now been re-established (A. Jelly 2011, pers. comm.) and official records updated, the 'site' is almost certainly a natural formation (49°30'23.1826" N/2°30'57.486" W).

Symbolic natural features of the survey area

The survey area includes several naturally occurring sites with significant symbolic relevance. Their inclusion here as surveyed features represent a concerted effort to investigate patterns of intervisibility beyond purely anthropomorphic objects. Symbolic natural features are defined here as naturally occurring landscape elements which through any combination of form, property, positioning and prominence have caused them to become appropriated within the spiritual/ritual functions of a culture.

Vale Church Logan

As with carefully premeditated megalith placement during the Neolithic it is similarly typical for Christian outposts to appropriate and assimilate pagan identities, ceremonies and manifestations as part of the Christianising process. The establishment of the Vale Priory directly adjacent to a logan (rocking stone) – considered by pagans as having oracle-like qualities – is surely no co-incidence. Indeed, records indicate that centuries after the establishment of the Priory, paganism remained *'rife'* in the Clos du Valle and that when Christian authorities forbade processional rights to the logan c. AD 1324 it was overturned by popular petition to King Edward II (Carey 1928, 285). At some point the logan broke or was destroyed and its pieces lay on and nearby the foundation/pivot – on which the author located a small area of unnatural smoothing on the foundation stone where pivoting may have occurred (Jelly 2011).

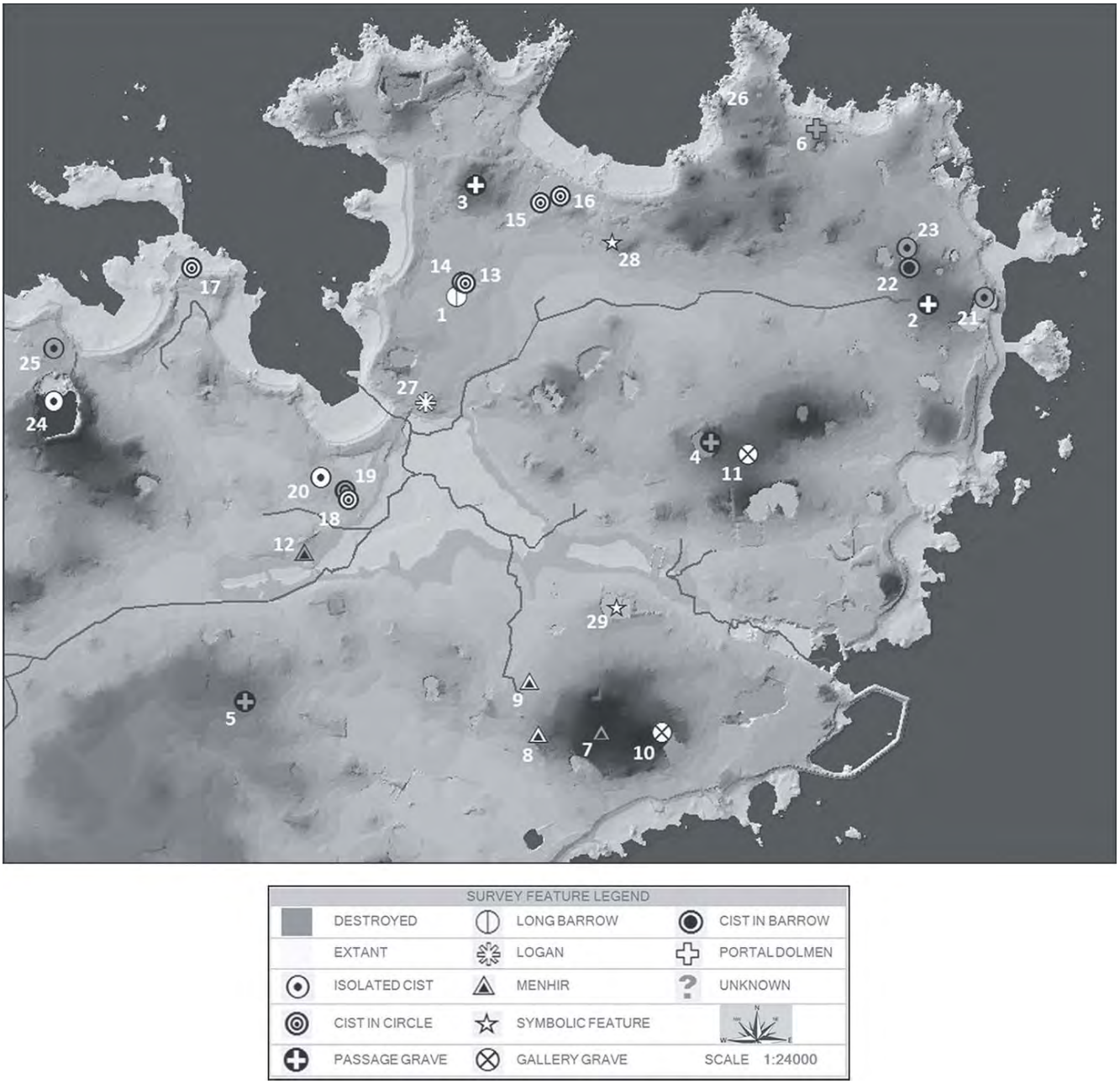

Figure 7.2 Survey features by location, name and type

La Rocque Balan

This natural rock outcrop on L'Ancresse common has the visual characteristics of a half-submerged reclining giant similar to others found globally (e.g. Antequera, Spain; Sibley Peninsular, Canada; Mourne Mountain, Ireland; Ute Mountain, USA) and has been used by pagans for as long as records date back. Its distinct shape, ceremonial use, comparative sites and landscape prominence establishes it here as a symbolic natural feature.

Table 7.1 Survey area features, megalithic and natural symbolic. The last five sites excluded from survey effort (see notes and main text)

Ref.	Site name	Type	Guernsey monument id	Extant	Orientation	Approximate years BC
						4500 4000 3500 3000 2500 2000 1800
1	Les Fouaillages	Long Barrow	MGU160	Y	North–south	
2	Le Dehús	Passage Grave	MGU153	Y	East–west	
3	La Varde	Passage Grave	MGU161	Y	East–west	
4	La Hougue Ricard	Passage Grave	MGU619	N	East–west	
5	Masse du Moulin	Passage Grave	MGU2752	N	East–west	
6	Le Gibet es Faiaes	Portal Dolmen	MGU614	N	Unknown	
7	La Rocque Pointue	Menhir	MGU625	N	N/a	
8	St Clair Hill (South)	Menhir	MGU1425	Y	N/a	
9	St Clair Hill (North)	Menhir	MGU1403	Y	N/a	
10	Delancey	Gallery Grave	MGU135	Y	East–west	
11	Rocque Qui Sonne	Gallery Grave	MGU156	Y	East–west	
12	L'Islet Circle	Menhir in Circle	MGU1387	N	N/a	
13	La Platte Marre (East)	Cist-in-Circle	MGU613	Y	Unknown	
14	La Platte Marre (West)	Cist-in-Circle	MGU155	Y	East–west	
15	La Mare es Mauves	Cist-in-Circle	MGU157	Y	East–west	
16	Martello 7	Cist-in-Circle	MGU531	Y	East–west	
17	Rousse Cists	Cist-in-Circle	MGU158	Y	North–south	
18	L'Islet Cist	Cist-in-Circle	MGU132	Y	East–west	
19	Sandy Hook	Cist-in-Circle	MGU1386	N	Unknown	
20	Sandy Lane	Isolated Cist	MGU134	Y	East–west	
21	Hougue de Nermont Cists	Isolated Cists	MGU3439	N	E–w & n–s	
22	Grande Sarrazin	Cist in Barrow	MGU1383	N	East–west	
23	Paradis Cist	Isolated Cists	MGU1384	N	Unknown	
24	Les vardes Cists	Isolated Cists	MGU1389	N	E–W & N–S	
25	Pulia Cist	Isolated Cist	MGU621	N	Unknown	
26	La Hougue Catelier	Unknown	MGU1382	N	Unknown	
27	Vale Church	Logan	MGU5764	N	N/a	
28	La Rocque Balan	Symbolic Feature	MGU534	Y	N/a	
29	La Grosse Hougue	Symbolic Feature	MGU622 MGU623 MGU624	N	N/a	

Paradis Beach	*Isolated Cist*	*MGU617*	*N*	*Urn*	*Kendrick (1928, 159): Determined as post-Neolithic due to architectural style and associated fineware vase cremation urn (removed)*
Fontanelle Bay	*Passage Grave*	*MGU615*	*Y*	*South–north*	*Kendrick (1928, 130): Removed from survey as site is highly speculative*
La Rocque Chardo	*Menhir*	*Unassigned*	*N*	*N/A*	*Removed: megalith is not described by the Lukis family, Oliver (1870), Kendrick (1928), or the Guernsey Monuments Records*
Sohier	*Natural Menhir*	*Unassigned*	*N*	*N/A*	*Removed:- meglith is not described by the Lukis family, Oliver (1870), Kendrick (1928), or the Guernsey Monuments Records.*
La Rocque au Varouf	*Symbolic Feature*	*Unassigned*	*N*	*N/A*	*Removed from survey as site details such as exact location, and period and type of use, remain unknown*

La Grosse Hougue

La Grosse Hougue (portal dolmen), Les Terres du Dis (cist in barrow) and La Chaise Saint Bonit (menhir) – which have all been lost to quarrying – once occupied a natural 10 m elevation at the south-eastern end of the Braye du Valle. The varied megalith types and associated collection of polished axes found on the *hougue* suggest it was an important spiritual and ritual location over a prolonged period. In an effort to prevent ill-considered exclusion from the sample set based solely on a lack of extant archaeology 'La Grosse Hougue' itself is included here as a symbolic natural feature.

Afforded viewshed methodology

Mark Gillings has recently raised concerns over the speed and momentum within GIS circles to develop increasingly complex analytical approaches. He suggests that simpler but nonetheless useful methods miss the opportunity to establish their viability in 'a headlong race to an assumed future' (2009, 335). This call for methodological reflection manifested itself in recent work on Alderney through a review of megalith visual prominence from both land and sea. Using a relatively simple – although data rich and time consuming – GIS based Cumulative Viewshed Analysis it was possible to test hypotheses on megalith site placement, visual properties of approach routes and the importance of striking sea-views. To bridge divides between phenomenology and computer-based approaches it was undertaken within the framework of 'afforded' views. A concept of originating within the school of psychology (Gibson, J. J.) and was introduced into archaeology by Ingold (1992). It requires a holistic consideration of the human protagonist's experiences and relationship with their total environment. Although available resources preclude Cumulative Viewshed Analysis as a tool here, the idea of visual affordance is adopted alongside basic recording methods to complement the Alderney data set.

Afforded views

Although recording methods used here are basic – essentially the notation of other visible survey features and the degrees to which the sea is prominently visible, for affordance to be appropriately considered during data collection factors such as protagonist height, protagonist visual acuity,

contemporaneous flora, megalith architectural style, megalith orientation and post Neolithic landscape alteration require contemplation. Following Cataroche's (2009, 20) observations of skeletal remains at La Varde passage grave, data here was collected at an assumed eye-level of 156 cm (average stature less 10 cm). All survey features are potentially viewable, however, viewshed data is only collected at megaliths with known orientation and then only from a position in front of its structural entrance. The exclusion of megaliths with unknown orientation is to avoid data coloration, and the choice of recording height and location explicitly to provide afforded data. This contrasts with some approaches which have opted to take recordings from the top of extant structures or downplay monument orientation (Cummings & Whittle 2004; Cummings & Fowler 2004, 113).

Visual acuity is problematic. Founded on Fisher's (1994) *'fuzzy'* view model, Ogburn (2006) has calculated that it is possible to view a 1 m sized object at a distance of 6.88 km – assuming perfect vision and atmospheric conditions as well as clear contrast between object and surroundings. But how prominent is each megalith architectural style within the landscape? La Varde passage grave is a large cairned structure situated on an outstanding natural mound. The L'Islet cists rest on a low elevation with cairns only several metres high. Menhirs were isolated objects unless maintained within a clearing. In an effort to factor diminishing megalith prominence as distance from viewer increases, we turn here to a simple application of Higuchi's (1988) theory on perceptive visibility. In relation to size and architectural style this approach has been applied here and Table 7.2 below indicates the maximum distance that features will be considered viewable. Following Fraser's (2003) approach on Orkney in assessing patterns of tomb location, Bradley *et al*. (1993, 133) also adopted a customised version of this approach in efforts to identify new ways of assessing the significance in spatial distribution of, and location preference for, prehistoric petroglyphs within a landscape. Visibility was broken into three *'distance bands'* – *immediate* (0–0.5 km), *intermediate* (0.5–5 km) and *distant* (>5 km). During fieldwork this enhanced how the landscape was assessed and during data analysis it allowed for increased opportunity to identify patterns.

The problem of vegetation and restricted visibility is reoccurring within GIS discussions and represents a potentially significant factor affecting data validity (Tilley 1997; Gearey and Chapman 2005; Llobera 2007; Gillings 2009). A study of Holocene palaeoenvironments at several Channel Island locations was carried out in 2000 (Campbell) and a State funded Guernsey-wide soil survey is available (ADAS 1989). In summary, the profiles identify three environmental zones – coastal, wetland and interior – all containing open woodland as well as respective types of open grassland, heath or sedge/rush marsh. This at least suggests an absence of dense restrictive vegetation within the study area, and widespread evidence for *'consecutive intentional burning'* in the Early Neolithic and beginning of the Late Neolithic – especially near Les Fouaillages – indicates the conversion of lands to pasture resulting in the opening of viewsheds through maintenance of grassland (Campbell 2000, 304; 307–309). Although these works can only offer peripheral guidance on assessing the potential for restricted vistas they do provide more comfort and complexity than a default referral to Tilley's *'bones of the land'* (1997, 74).

Table 7.2 Maximum distance of feature intervisibility used during survey activities

Symbolic natural feature	*Unrestricted within survey area*
gallery grave/passage grave	*3 km*
long barrow/cist-in-circle	*2 km*
cist in barrow/portal dolmen	*1.5 km*
Isolated cist	*1 km*
menhir	*0.5 km*

Fieldwork activity

Each megalith site and its immediate surroundings were visited during good atmospheric conditions. Longitudinal and latitudinal co-ordinates for site centre-points were recorded using map-grade GPS in WGS84 (Sony-Ericsson Experia X10; EclipSim GPS Status & Toolbox v3.8.1). For sites with known orientation, afforded visibility of other survey features as well as sea-view viewshed arcs were noted from a position set back approximately 5–10 m from entranceways (distance depending on monument's own proportions) and at a height of 156 cm from ground level. Compass/GPS bearings were read away from the magnetite rich gneiss and depending on vegetation and perceived value 360° photographs were taken to assist in desk-based activities (Canon PowerShot S5is; analogue 2-chamber levelling meter; photographic tripod).

Desk based activity

Digital mapping

In preparation for the digitalization of collected fieldwork data a multi-layered GIS environment was created in ESRI ArcGIS v9.3 using base 'layers' and 'shapefiles' with full WGS84 spatial referencing. A TIN format terrain layer was created using the *3D Analyst create TIN* toolbox function from a 1 m interval topography 'shapefile'. An additional layer to host the survey features was then added.

Post-fieldwork processing

Compatible data collected during fieldwork was migrated into the digital GIS environment. Features were input to a dedicated base layer using the recorded WGS84 co-ordinates and assigned symbols and colouring to denote type and whether extant or destroyed. Component 360° photographs were 'stitched' together using Canon PhotoStitch v1.2 and then light-room processed using Adobe Photoshop Elements v8 (*.jpg* format). Sea-view viewshed arc images were created in Microsoft Elements Designer V4 using 20:000 scale GIS map exports as base layers and saved in *.png* format. Following the visible prominence and viewer affordance rules outlined above survey feature intervisibility data were added in ESRI ArcGIS v9.3 onto four date ascribed polyline drawing elements (4500 cal BC, 4000 cal BC, 3500 cal BC, 2000 cal BC).

Speculative views

During fieldwork a number of sites were initially noted as potentially inter-visible. This assignment was made where post-Neolithic anthropomorphic activity inhibited what would otherwise have been a direct view. The survey area also hosts several gneiss quarries that alter the natural topography. Documentary sources provided no pre-quarried imagery for these locations, presumably due to their

low artistic value. GIS approaches were therefore used to estimate original topography by investigating contour density (i.e. slope incline) and elevations immediately surrounding quarry locations. These speculative views were tested in ESRI ArcGIS v9.3 using the TIN format terrain and 1 m topography layers and retained or discarded following investigation.

Survey results

Collated fieldwork and desk-based data/results are presented in table and graphical/mapping formats that utilise findings from research on Neolithic sea-level change briefly discussed above to provide more accurate representations of chronological changes in relative survey feature placement to geophysical environment. Dates are chosen to correspond with earliest known megalith construction (4500 BC), Mid-Neolithic passage grave traditions (4000 BC/3500 BC) and just prior to the local Neolithic's end when all megalith's can be included (2000 BC). Table 7.3 shows the data chronologically for both intervisibility and afforded sea-view viewsheds. Here, intervisibility is total occurrences a location is visible from other survey features (TIMES SEEN) as well as the number of other visible survey features (OBJ. VIEWED). Sea-view viewsheds are listed for sites with known orientations and data represent total degrees afforded.

Afforded intervisibility

4500 BC (Fig. 7.3)

Les Fouaillages (1) is the only known megalith site and is inter-visible with both the Vale Church logan (27) and La Rocque Balan (28). The resulting area demarked by the afforded intervisibility aligns well with palynological evidence of contemporaneous forest clearance for conversion to pastureland (Campbell 2000, 307–309).

4000 BC (Fig. 7.4)

Recent isotopic analysis at Le Déhus (2) attributes use early in the Mid-Neolithic (Schulting *et al*. 2010) and Les Fouaillages (1) is the only other anthropomorphic feature. Patterning of placement and intervisibility are noteworthy. The two megalith sites are aligned east–west along the Clos du Valle's only natural waterway, with Le Déhus located at the spring's origin. By happenstance, alignment of both natural symbolic features continues this arrangement as the waterway heads towards the Braye du Valle. It has been suggested a natural water body once existed at the point of intersection and documentary sources support this to an extent, however, the absence of palynological data from the area means this cannot yet be confirmed for the Neolithic. Le Conte (2005, 900) has convincingly associated the 42° north-east orientation of Les Fouaillages to the lunar azimuth at its construction, however, no academic explanation has yet been proffered for choice of location. Data here suggest either a carefully premeditated decision to align with contemporaneous symbolic and natural features or a remarkable co-incidence. Afforded intervisibility between the features at this time highlights two restricted views: Le Déhus is observed twice, but other features are not visible from that location.

Table 7.3 Tabled results of survey feature intervisibility counts and total degree arcs of afforded sea-view viewsheds. Intervisibility counts of objects viewed from menhir were not recoded, along with megalithic features where site orientation is unknown. Similarly afforded sea-view viewshed calculations were not undertaken at megalith features where site orientation is unknown.

						YEARS BC								AFFORDED
			GUERNSEY			4500		4000		3500		2000		SEA VIEW
REF.	SITE NAME	TYPE	MONUMENT ID	EXTANT	ORIENTATION	TIMES SEEN	OBJ. VIEWED	TIMES SEEN	OBJ. VIEWED	TIMES SEEN	OBJ. VIEWED	TIMES SEEN	OBJ. VIEWED	(degrees)
1	Les Fouaillages	Long Barrow	MGU160	Y	NORTH-SOUTH	2	2	2	3	3	4	5	6	0
2	Le Dehús	Passage Grave	MGU153	Y	EAST-WEST			2	0	3	0	7	4	140
3	La Varde	Passage Grave	MGU161	Y	EAST-WEST					3	3	9	8	103
4	La Hougue Ricard	Passage Grave	MGU619	N	EAST-WEST					1	2	3	4	43
5	Masse du Moulin	Passage Grave	MGU2752	N	EAST-WEST					2	2	4	5	31
6	Le Gibet es Faiaes	Portal Dolmen	MGU614	N	UNKNOWN					0	0	1	1	
7	La Rocque Pointue	Menhir	MGU625	N	N/A							0	N/A	N/A
8	St Clair Hill (South)	Menhir	MGU1425	Y	N/A							0	N/A	N/A
9	St Clair Hill (North)	Menhir	MGU1403	Y	N/A							1	N/A	N/A
10	Delancey	Gallery Grave	MGU135	Y	EAST-WEST							4	4	52
11	Rocque Qui Sonne	Gallery Grave	MGU156	Y	EAST-WEST							1	1	44
12	L'Islet Circle	Menhir in Circle	MGU1387	N	N/A							1	N/A	
13	La Platte Marre (East)	Cist in Circle	MGU613	Y	UNKNOWN							5	6	
14	La Platte Marre (West)	Cist in Circle	MGU155	Y	EAST-WEST							5	6	13
15	La Mare es Mauves	Cist in Circle	MGU157	Y	EAST-WEST							4	4	58
16	Martello 7	Cist in Circle	MGU531	Y	EAST-WEST							3	3	65
17	Rousse Cists	Cist in Circle	MGU158	Y	NORTH-SOUTH							0	1	127
18	L'Islet Cist	Cist in Circle	MGU132	Y	EAST-WEST							6	6	23
19	Sandy Hook	Cist in Circle	MGU1386	N	UNKNOWN							6	6	
20	Sandy Lane	Isolated Cist	MGU134	Y	EAST-WEST							5	5	14
21	Hougue de Nermont Cists	Isolated Cists	MGU3439	N	E-W & N-S							1	1	178
22	Grande Sarrazin	Cist in Barrow	MGU1383	N	EAST-WEST							4	4	13
23	Paradis Cist	Isolated Cists	MGU1384	N	UNKNOWN							2	2	
24	Les vardes Cists	Isolated Cists	MGU1389	N	E-W & N-S							7	7	110
25	Pulia Cist	Isolated Cist	MGU621	N	UNKNOWN							1	1	
26	La Hougue Catelier	Unknown	MGU1382	N	UNKNOWN							0	0	
27	Vale Church	Logan	UNASSIGNED	N	N/A	2	2	2	2	5	5	13	13	N/A
28	La Rocque Balan	Symbolic Feature	MGU534	Y	N/A	2	2	2	3	3	4	6	7	N/A
29	La Grosse Hougue	Symbolic Feature	see note	N	N/A					3	3	7	8	N/A

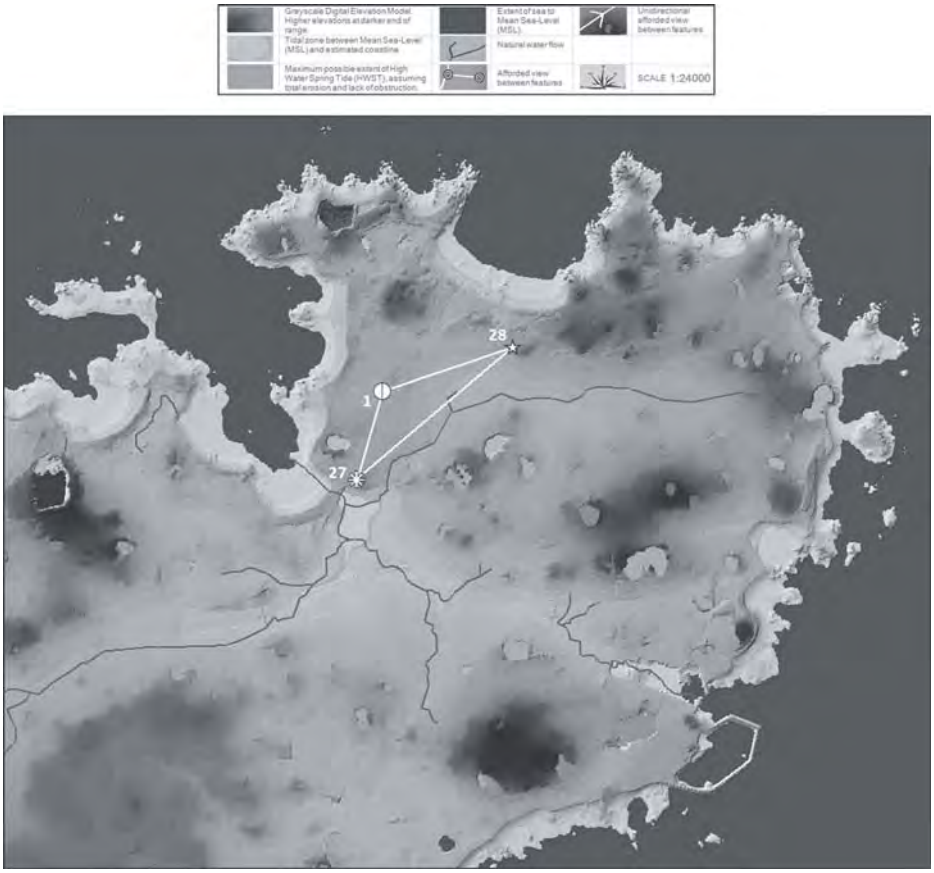

Figure 7.3 Survey feature intervisibility and contemporaneous tidal landscape reconstruction at 4500 BC

3500 BC (Fig. 7.5)

Data highlights on-going consistency in patterns of afforded intervisibility as well as an expansion in area affected by a potential structuring and ordering of space already noticeable at 4000 BC. Rowe's (2010, 59) island-wide assessment of the ordering of maritime space by megalith location and visibility from the sea supports Friedman's (2008) argument made on the Isle of Man that inland partitioning was predominantly undertaken through the use of menhir. Against the backdrop of landscape reconstructions, here we see that distinct inland environmental zones and natural resources align closely with larger megalith types. Indeed, further to potential ordering of this kind megalith construction at 3500 BC has extended southwards, demarking the Braye du Valle marsh and the land directly to its south that provided evidence of conversion and agriculture during this period (Campbell 2000, 306). The addition of La Varde (3) passage grave in the north-west continues to demonstrate an alignment with associated patterns of deforestation and land conversion. Intervisibility between passage graves appears not to have been important. Le Déhus (2) is visible from 3 other features but views to others are either restricted by landscape topography or the megalith's own mass. The Gibet et Faiaes (6) portal dolmen is visually isolated.

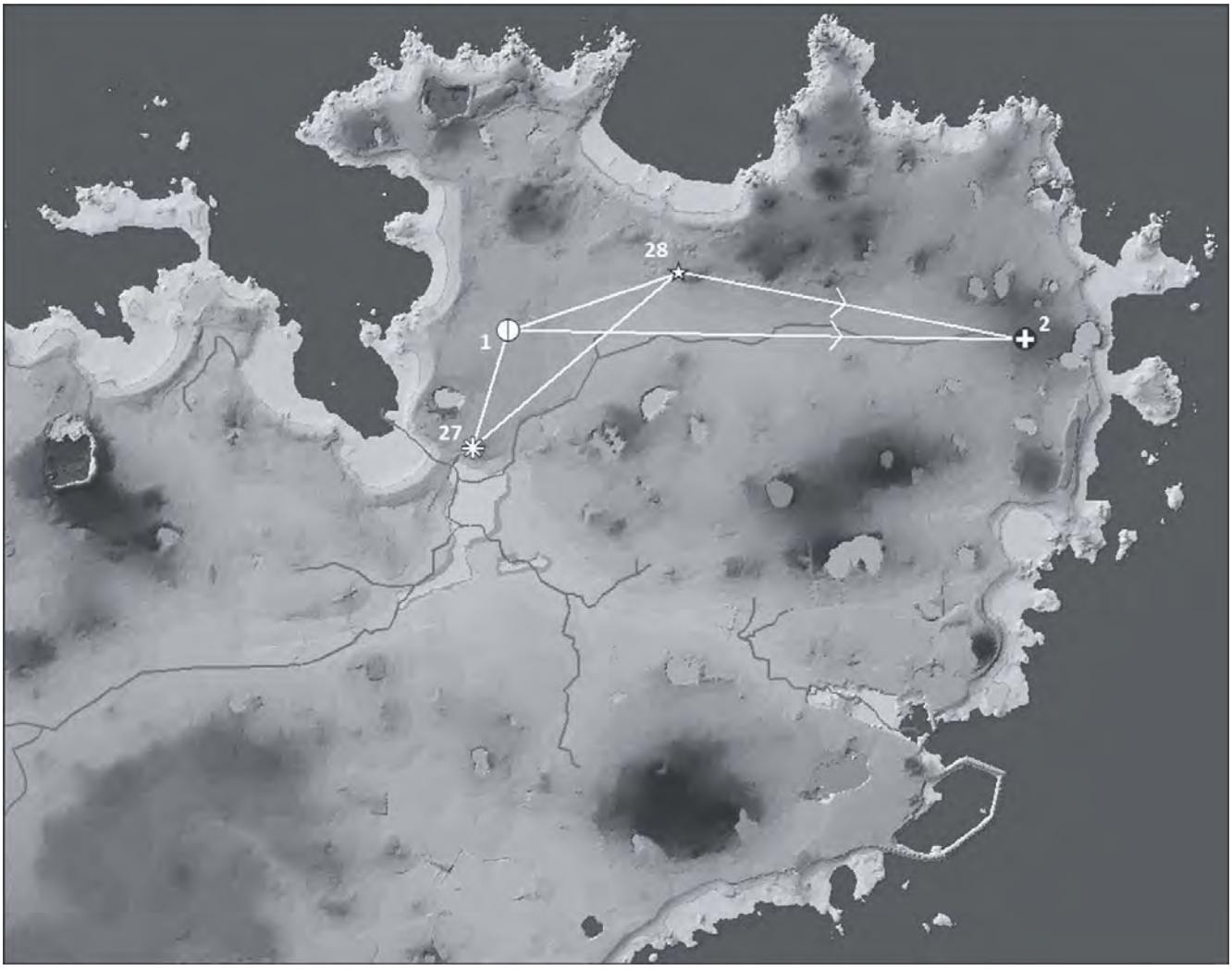

Figure 7.4 Survey feature intervisibility and contemporaneous tidal landscape reconstruction at 4000 BC

2000 cal BC (Fig. 7.6) Total survey population.

The ordering of space to productive inland biotopes and areas common for Neolithic utilisation persists

with megalith presence predominantly located at the peripheral edges of the Braye du Valle salt-marsh and areas including conversion to pasture. This delineation enhances with the introduction of the cists-in-circle type. A further observation related to cist-in-circles is their adjacency to tidal zones. The La Platte Mare group (13, 14) breaks with this theme but they are also the megalith features where official classification is questionable due to architectural style (west: Nash, pers. comm.) or because of rudimentary extant remains (east). Land depicted east of the L'Islet cluster (18, 19, 20) needs careful discounting as it most probably represents the effects of 19th century silting rather than the Neolithic Braye du Valle mouth.

The largest megaliths of the Late Neolithic, the Delancey (10) and Rocque Qui Sonne (11) gallery graves, share a number of characteristics beyond architectural style. Both are located on high elevations that frame the eastern end of the Braye du Valle and are almost equidistant from it. Furthermore, both disengage from general patterns of intervisibility relationships possessing only limited connections to other survey features beyond each other. Of note are the three menhirs in and nearby Delancey Park (7, 8, 9). These three enigmatic monuments hint at a possible procession route which followed the waterway and then headed east over the hilltop to reach the gallery grave. With the exception of the isolated cists at Les Vardes (24) – not to be confused with La Varde passage grave, located at an elevation affording more extensive views, this megalith type's intervisibility data suggests localised relationships to larger more established tombs and an indifference to placement resulting in wider visual distinction. Only two small cists are documented on Les Vardes and given its prominence within the landscape one would expect a more significant archaeological presence. Although the area has been subject to extensive quarrying its south and south-eastern faces – where larger local megaliths are predominantly located – remain unaffected and undeveloped. La Hougue Catelier (26) and the Gibet et Faiaes (6) remain essentially spatially and visually isolated. Indeed, the latter's intervisibility with La Grande Sarazzin (22) may be circumstantial given both features' raised elevations and La Grande Sarazzin's clearer relationship to Le Déhus (2).

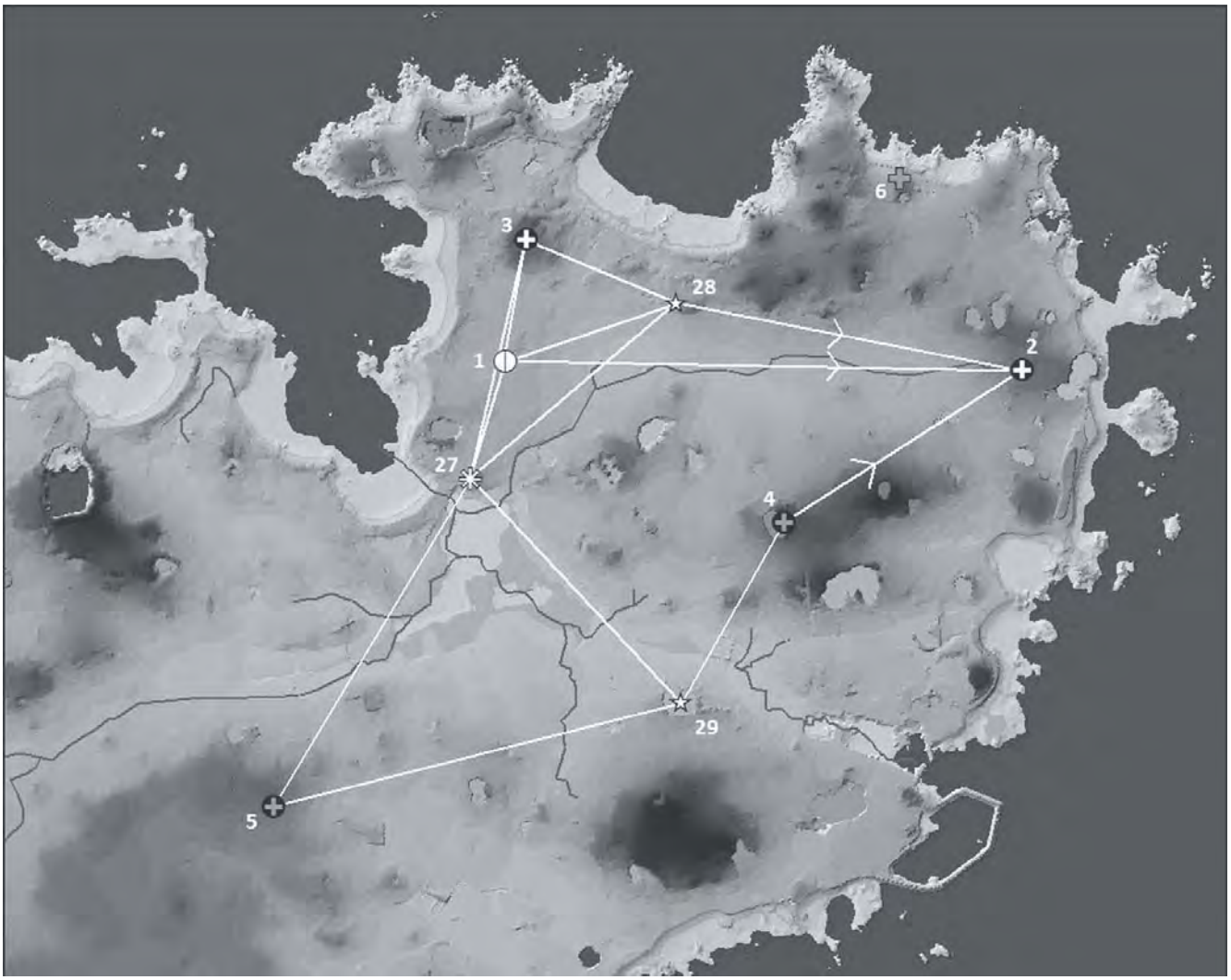

Figure 7.5 Survey feature intervisibility and contemporaneous tidal landscape reconstruction at 3500 BC

Afforded seaview viewsheds

3500 cal BC (Fig. 7.7)

The sea is not visible from Les Fouaillages (1). This appears consistent with its premeditated low-lying position and evidence suggesting its earliest phase was surrounded by forest (Kinnes & Grant 1983, 25). Located in the Clos du Valle's east and on the brow of a 17 m coastal elevation, Le Déhus (2) commands the most expansive and direct sea-view at 140° – approximately half of its total afforded viewshed (287°). La Varde's (3) prominent and central headland location affords sea-views to the northeast and southwest totalling 103°. Several observations are noteworthy regarding La Hougue Ricard (4) and the Masse du Moulin (5). Both possess comparably limited and fragmented afforded sea-views given their prominent but inland setting, with the sea being inconspicuous and its viewshed presence arguably circumstantial given the size of the host island.

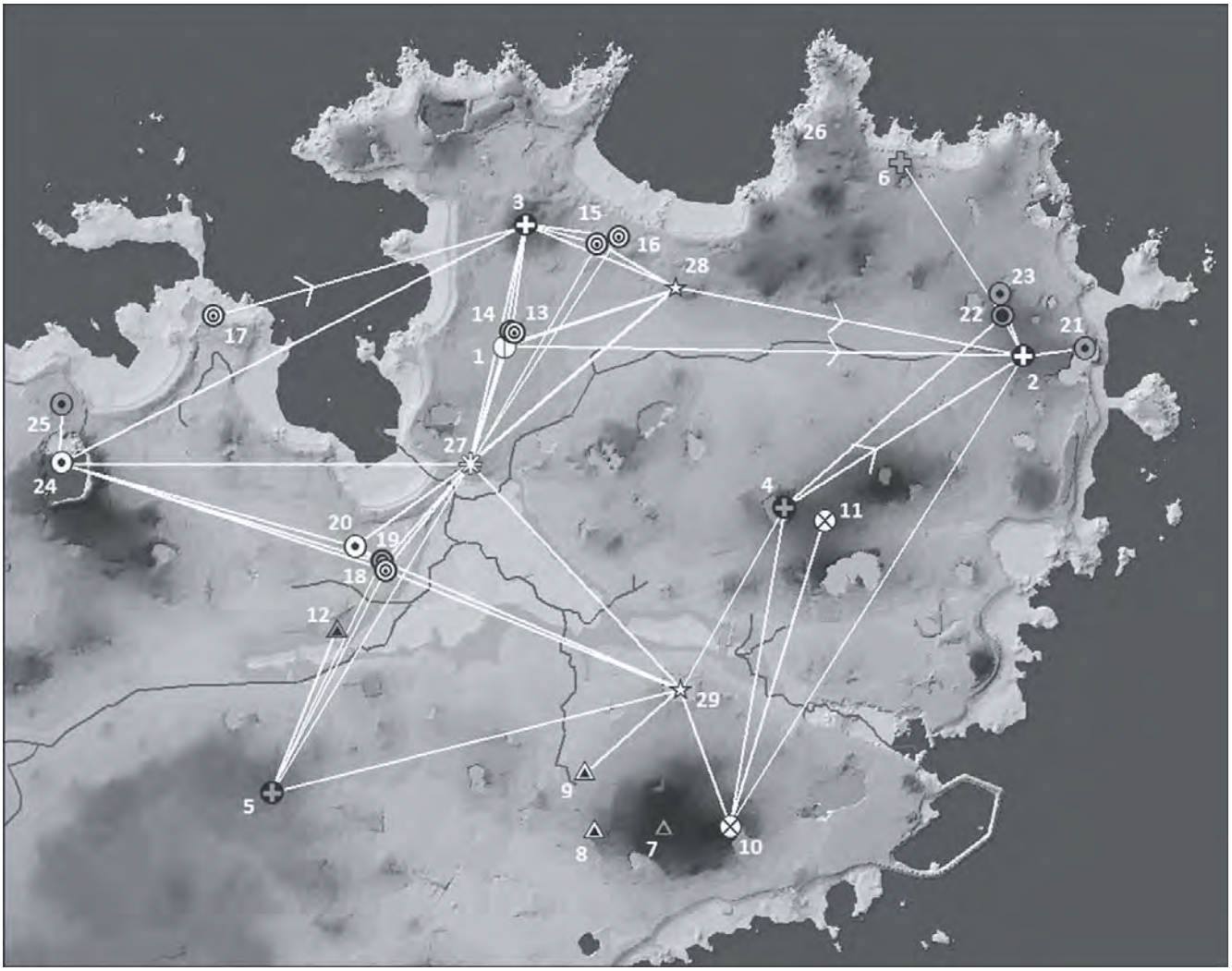

Figure 7.6 Survey feature intervisibility and contemporaneous tidal landscape reconstruction at 2000 BC

2000 cal BC (Fig. 7.8) Late Neolithic only

This period introduces a wider range of megalith types, changes in placement preference and a geographically wider distribution. All cist-in-circles have an afforded sea-view. That is perhaps unremarkable given the already noted relationship with coastal settings. However, the extent of sea-view for this megalith type is ubiquitously contained by headlands denoting a potential preference – additional to the clear pattern of lowland placement – for more secluded positioning or restricted views. The Rousse Cists (17), located at the cusp of the tidal zone and possessing the significantly greatest sea-view at 127° are still subject to this observation because approximately 50° of that viewshed looks back towards La Varde (3) across Le Grande Havre bay. Few of the isolated cists participated in this element of the research due to undocumented orientation. Nevertheless, data from Les Vardes (24) and Hougue de Normont (21) highlight expansive sea-views. With the location of other known megalith of this type either elevated and/or very coastal the findings here perhaps represent a consistent pattern. At the only cist in barrow (Le Grande Sarrazin 22) – which has an unusual and poorly understood archaeology – the sea-view is extremely restricted by topography despite its elevated position. The two gallery graves, Delancey (10) and the Rocque Qui Sonne (11), have remarkably similar afforded sea-view data with both viewsheds having an easterly orientation and ranges within a few degrees of each other; 52° and 44° respectively.

2000 cal BC (Fig. 7.9) Total survey population

The cumulative data demonstrates that whether views of the sea were circumstantial or premeditated, and when considering possible lost sites and those for which we have no documented orientation, there is almost total coverage. Additionally, we find again that sea-views from La Hougue Ricard (4) and the Masse du Moulin (5) are perhaps only circumstantial. In both cases they provide only duplication to existing coverage and at a distance inland which renders limited impact of the sea within the total vista.

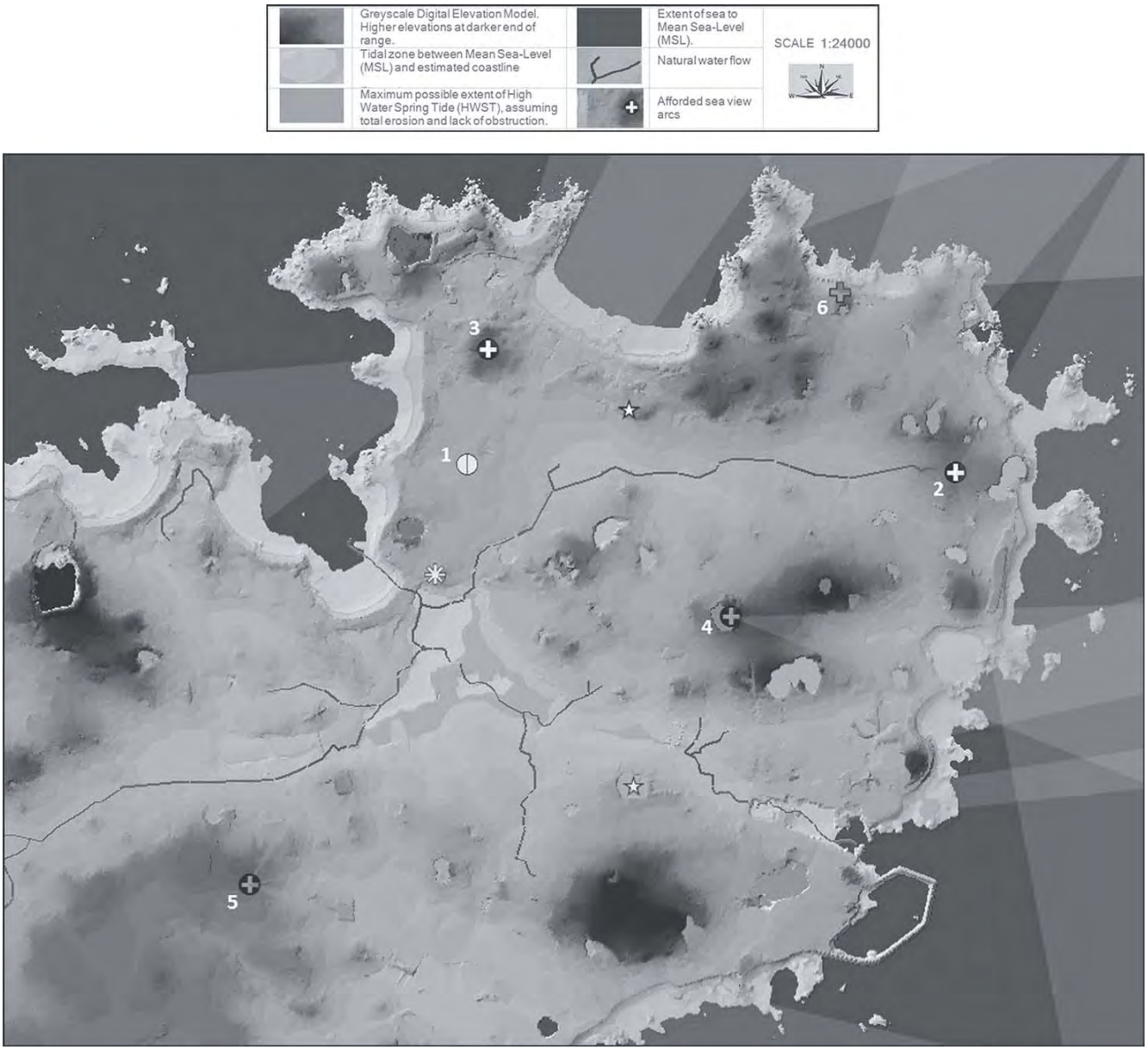
Greyscale Digital Elevation Model. Higher elevations at darker end of range.
Tidal zone between Mean Sea-Level (MSL) and estimated coastline
Maximum possible extent of High Water Spring Tide (HWST), assuming total erosion and lack of obstruction.
Extent of sea to Mean Sea-Level (MSL).
Natural water flow
Afforded sea view arcs
SCALE 1:24000
1
2
3
4
5
6

Figure 7.7 Afforded sea-view viewshed arcs at megaliths with known orientation, and contemporaneous tidal landscape reconstruction at 3500 BC

Discussion

The simple methodological approaches chosen for this research have shown themselves effective through the continuity of data they have provided for analysis. Digital elevation models used here recall the inherent value of Wylie's assertion that we must not forget the importance of understanding

the ‘visual and topographic texture of the landscape’ (2007, 203). Additionally, the opportunity to compare geomorphological change relative to megaliths at chosen dates aligns with Muir’s (1997, 99–113; 222) ‘structure and scenery’ approach by continuing a theme of improving our understanding of the area’s megalithic presence within its contemporaneous landscape whilst also reviewing the changing landscape itself.

Do significant physical, visual, and chronological relationships exist between the survey’s megalithic and proposed symbolic natural features?

Megalith placement is consistent by type. Passage and gallery graves possess elevated locations, cists-in-circles are positioned near low-lying tidal zones and isolated cists peripheral to larger, more-established tombs. Chronological considerations have elucidated intimate relationships between the earliest architecture, natural resources and symbolic natural features. Patterns of intervisibility reviewed in chronological separation provide data suggesting an evolving ordering of space to environmental zones and natural resources that aligns well to data within the palynological record. Furthermore, the decision to include symbolic natural features within the survey has been justified. The three features have some of the highest ‘times seen’ and ‘objects viewed’ counts with the Vale Church logan having the highest at 13 of each type.

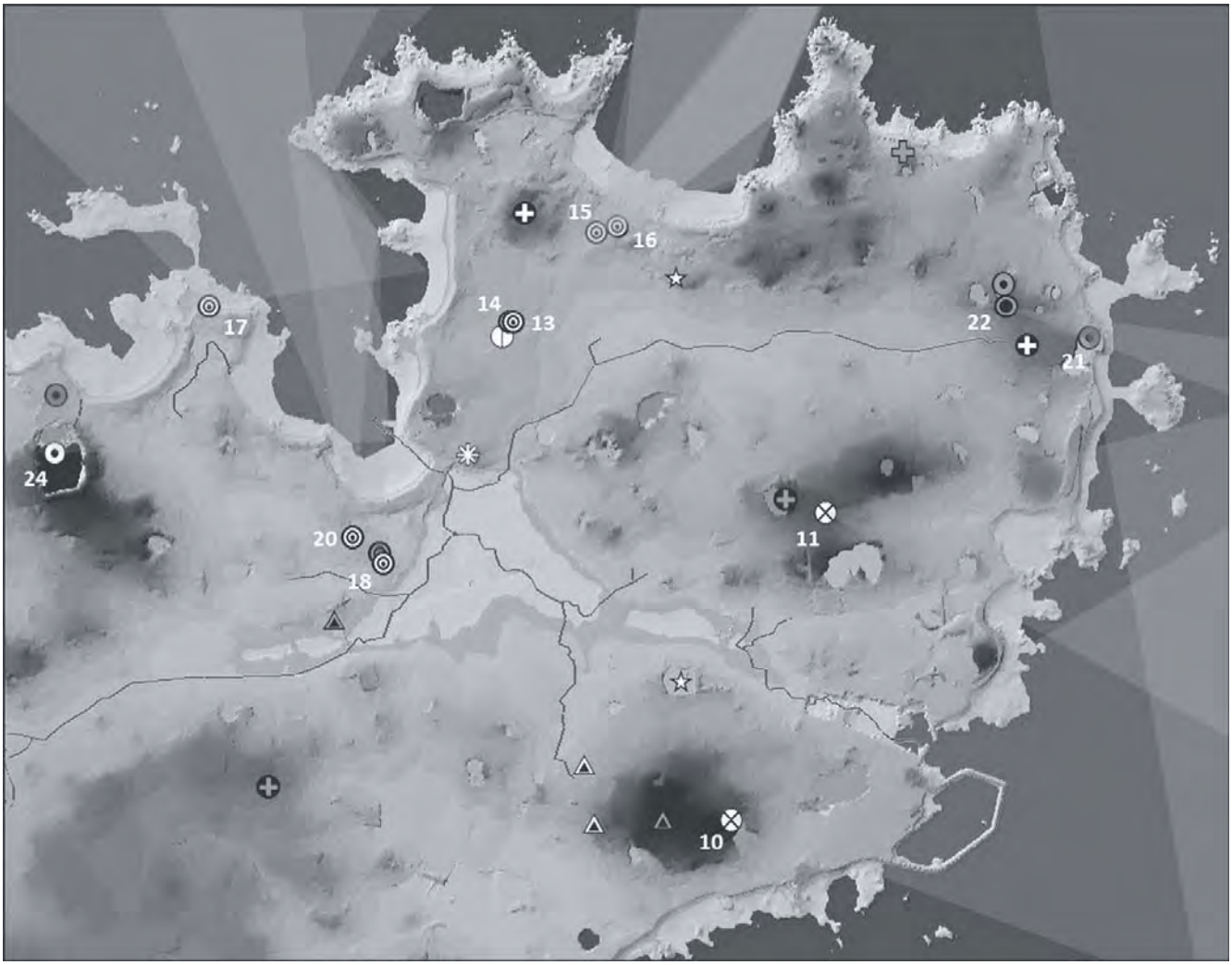

Figure 7.8 Afforded sea-view viewshed arcs at megaliths with known orientation, and contemporaneous tidal

landscape reconstruction at 2000 BC. Only showing Mid–Late Neolithic megalith features

Afforded sea-view viewshed data also provides interesting results, with megalith types aligning strongly to set degree ranges. Isolated cists either have a limited 13–14° sea-view or possess extensive viewsheds above 110°. The gallery graves have 44° and 52°. Cists-in-circles are between 23° and 127°, but are all positioned so that views are restricted by natural landmasses. The passage graves provide two differing range results that require discussion; Le Varde/Le Déhus 103–140°, and the Masse du Moulin/La Hougue Ricard 31–43°. The latter two are ascribed here as passage graves based on excavation descriptions outlining them as chambered with multiple capstones and posessing eastern hill-brow locations. Hindsight suggests that a more appropriate type assignment is Kendrick's (1928, 67) *Type B* class of communal burial chamber that has no approaching passage or entrance graves. This distinction from Le Varde and Le Déhus as passage graves proper (*Type A*) may be linked to both the divisions and correlations found in their respective afforded sea-view viewshed results.

The results do contain anomalies. Aside from a possibly circumstantial link between the Gibet et Faiaes and Grand Sarrazin the two megaliths located on the north-eastern headland (Gibet et Faiaes/La Hougue Catelier) are not inter-visible with the rest of the survey set. The methodological decision to preclude the recording of what can be viewed from locations where orientation is unknown obviously contributed to this outcome. Nevertheless, the results are noteworthy when considering the relatively small size of the overall survey area and the strong intervisibility relationships that exist throughout the remainder of its sampled features. The already noted inconsistency of opinion regarding the Platte Mare megaliths' type assignment is complemented by data here as neither possesses similar physical settings or afforded sea-view viewshed characteristics to other surveyed cist-in-circles. Similarly, statements made by the author regarding the possibly incorrect official site type classification for the Rocque Qui Sonne are given support by its comparable intervisibility and afforded sea-view viewshed profile with Delancey gallery grave. In general the findings support Cole's (2005, 96) argument that viewshed analysis can be a significant contributor to the reclassification of site types through its more holistic approach to re-contextualising them with their landscape.

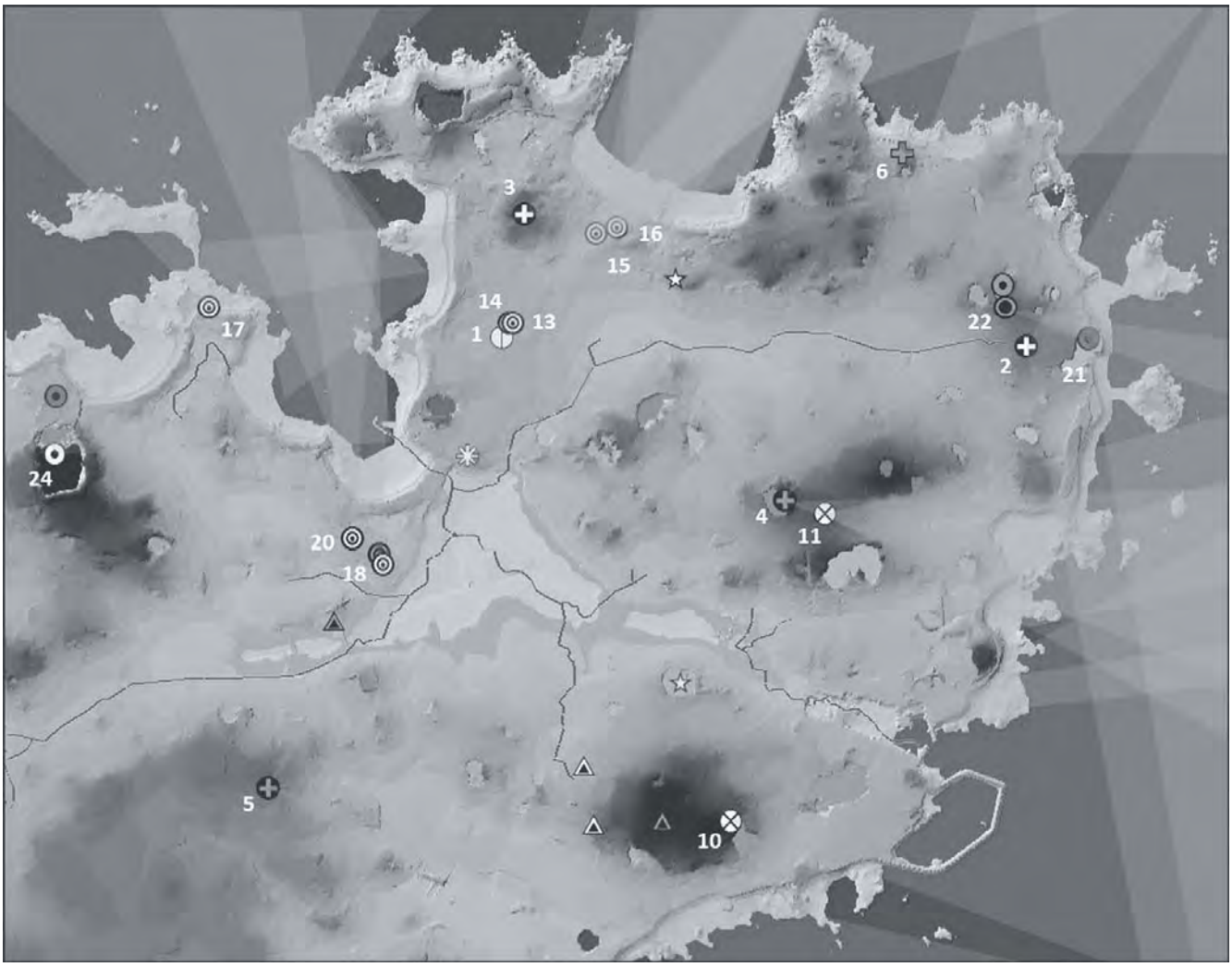

Figure 7.9 Afforded sea-view viewshed arcs at megaliths with known orientation, and contemporaneous tidal landscape reconstruction at 2000 BC – all contemporaneous features shown.

Does megalith sea-view viewshed data align with contemporary academic expectations or is it found to be anomalous at this location?

A key interest here is to compare data with those proposed by Scarre (2002a; 2002b; 2002c) and Lopez-Romero Gonzales de la Aleja (2008) regarding megalith positioning and viewshed properties. To paraphrase Gillings (2009), Scarre's proposals can be 'distilled' to a few key expectations. Megaliths should be located coastally, prominently and possess a striking sea-view backdrop when approached from the landward side. His underlying reasoning for the coastal placement of megaliths is the location's 'liminality' and association with the transformational properties of the tidal zone that creates a space easily relatable to the transition from life to death (Scarre 2002c). Lopez-Romero Gonzales de la Aleja's proposals are harder to summarize succinctly as he has undertaken a spread of statistical investigations that encompass a wide geographical area and chronological record; the Mesolithic through to Bronze Age incorporating both settlement and megalith sites. His underlying thesis is that sites are located with premeditated visibility concerns either by period or location characteristics and that such factors supersede any considerations of 'territorial demarcation' (Lopez-Romero Gonzales de la Aleja 2008, 219). Although in agreement with Scarre regarding megalith site prominence, coastal location and presence of sea-views, relevant here are his findings that Neolithic site locations show a

clear preference for including other sites into their middle-distance visual horizons (i.e. 2.2 km within his methodological framework).

As with Alderney data (Gillings 2009), results here provide uneven continuity with Scarre's expectations. Although on an island as small as Guernsey the concept of an inland location is somewhat relative, there are three megaliths that divide from their local counterparts and Scarre's proposals; the Masse du Moulin and La Hougue Ricard – already called-out for idiosyncrasies from the remaining survey set – as well as the Rocque Qui Sonne passage grave all push the limits of what one might reasonably call coastal. Sea-view viewshed data here also demonstrates their locations do not afford striking sea backdrops upon approach from any direction: sea-views are either broken and/or too distant to cause significant sensory impact. Nevertheless, all three do have prominent locations. The cist-in-circle type although adhering to costal/tidal settings is found ubiquitously on low elevations that are arguably not 'prominent' and thus fail to consistently provide 'striking' sea-view backdrops. It should, however, be noted that this local megalith type probably did not factor into Scarre's considerations when building his thesis on broader Armorican patterns. Isolated cists are found at coastally prominent elevated locations although afforded sea backdrop viewshed data is polarised between highly restricted and expansive.

With the exception of Les Fouaillages – that was clearly established without premeditation for visual prominence or a sea-view – the larger megaliths (Le Déhus/La Varde/Rocque Qui Sonne/Delancey) do fall more closely in line with Scarre's proposals. Nevertheless, Le Déhus is alone in providing a clear demonstration. La Varde's central headland position affords a striking sea backdrop when approached from inland, however, calling it 'revelationary' is questionable and the view westwards towards the horizon breaks almost immediately by the protrusion of the Rousse headland. The Rocque Qui Sonne and Delancey passage grave both have prominent positioning and if approached from inland would offer sea backdrops that included several of the archipelago's islands, but whether an afforded sea-view of approximately 50° is enough to constitute 'striking' is debatable. Preference for prominent sea-views are further brought into question at the Late Neolithic site in Delancey Park where premeditation to restrict the sea-view appears manifest in the choice to locate the megalith set-back and slightly downhill – similar to megaliths on the eastern Irish Sea (Cummings & Fowler 2004, 117). Nevertheless, it should be noted that the gallery grave's setting within the grounds of an old military base means over time it has lost numerous structural elements to it. Data here could be coloured if the monument shifted during the procurement effort or if anthropomorphic re-landscaping of the military estate significantly altered virgin views.

Scarre's research in north-west France is extensive and findings there securely substantiate his proposals. However, as with the report on Alderney it is again difficult to sustain Scarre's hypothesis within another Channel Island megalith group. Furthermore, the sample set here contains a wider and larger selection of megalith types and includes more extant sites and detailed supporting documentation for those now lost. The effort on Alderney and on the northernmost section of Guernsey demonstrates the need for further research in the archipelago to follow up on the possibility of distinctly local considerations in megalith and landscape relations.

Greater consistency is found when making comparisons with say, Lopez-Romero Gonzales de la Aleja's findings for south-west Morbihan. His work identified strong intervisibility relationships between Neolithic sites at Higuchi's (1988) middle distance index of 2.2 km, a result which differed

from other prehistoric periods. Explicitly Neolithic focus here precludes similar long-term chronological comparisons; however, that restriction potentially offers a more intimate picture of changing intervisibility preferences within that period. It should be stated that the strong patterns of intervisibility found here align with Lopez-Romero Gonzales de la Aleja's barring only a few anomalies. The visual isolation of the Gibet et Faiaes and La Hougue Catelier are a clear departure from the remaining sample set. Explanations are unlikely to be forthcoming as both sites are now lost; locations, architectural style, uncertain chronology. Data from Le Déhus is noteworthy and should be pursued in future efforts; afforded views of other survey features is consistently zero until the proliferation of Late Neolithic sites – predominantly in the form of nearby isolated cists – breaks the long-standing trend. Reminiscent of Morbihan data we find here that spatial relationships at approximately 2.2 km exist between several large Early and Middle Neolithic megaliths that survive in the archaeological record (Le Déhus, La Varde, Les Fouaillages, La Grosse Hougue). Nevertheless, the supposition that data here may elucidate patterns of changing intervisibility preferences within the Neolithic as demonstrated in the Morbihan requires some assertions. Any such comparison with the Morbihan findings must be considered alongside any evidence for wider cultural similarities with Guernsey's Neolithic if it is to be meaningful and productive. Without this foundation any patterns observed may be the result of statistical coincidence. Second, the difference in survey area between that undertaken in the Morbihan and the landmass of the Clos du Valle and Braye du Valle are markedly different. The density of megalith sites on Guernsey may often equate to unavoidable and potentially non-significant and/or inadvertent results.

Closing remarks

The initial steps taken here to re-contextualise northern Guernsey's megaliths to their changing Neolithic landscapes provides the first real opportunity to reconsider them and the choices made in placement and physical-visual attributes against the backdrop of contemporaneous topography at a non-site level. Intervisibility results show that if chronological sequences are reasonably understood then even within a small survey area useful returns are attainable using simple methodologies. Additionally, data returned through including qualified symbolic natural features has demonstrated the importance in considering them within future research efforts as real and meaningful landscape elements that may elucidate past human considerations of landscapes and belief.

In comparison with wider regional patterns from Brittany's coast undertaken by Scarre (2002a; 2002b; 2002c) site placement and sea-view viewshed findings here correlate more closely with those from Alderney (Gillings 2009) and raise the possibility of distinctly local preferences. Intervisibility data for megaliths and symbolic natural features suggest intimately evolving relationships between the feature types and the changing biotopes as the Neolithic progressed. Although on a markedly different scale – both in terms of size of survey sample and physical area – results here compare well to Lopez-Romero Gonzalez de la Aleja's (2008) spatial and intervisibility results for the Morbihan's same cultural period. However, to what extent they can support his arguments for the *'irrelevancy'* of territorial demarcation will have to be the topic of future work.

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8

Defying expectations: Neolithic life in the Isles of Scilly

Trevor Kirk

The study of Scilly's Neolithic may require us to defy some current expectations and assumptions about life and ritual on the Atlantic Seaboard during the 5th–3rd millennia BC. While Scilly's Neolithic may not exist in an easily recognisable form, this is not an argument in favour of island insularity. To the contrary, this paper is a call to think about the specific contexts in which island communities, such as those in Scilly, engaged with the Neolithic repertoire – through contact, interaction, mobility and acculturation along the Atlantic seaboard – and created life-ways that may have been distinct from those in the Neolithic heartlands on which archaeological expectations are invariably based.

The Neolithic of the Isles of Scilly is largely unknown. This chapter considers why this is the case, the history of archaeological research that has brought us to this point, and the interpretative opportunities, challenges and pitfalls that lie ahead in the study of ritual in Neolithic Scilly. While ritual forms the *leitmotif* of this chapter, ritual is deeply embedded in the flow of daily life and, therefore, can only be considered in the wider context of socio-economic and political life.

Paul Ashbee's (1986) review of Scillonian archaeology concluded that future prehistoric research should seek to enhance our understanding of the Mesolithic–Neolithic transition; the chronology and cultural affiliations of monuments (especially entrance graves, cairns and cists); the chronology and function of prehistoric settlement; and the insights afforded by ceramic studies, with a particular emphasis on typology, chronology and residue analysis (Ashbee 1986, 197, 212–214). Many of these fundamental challenges remain. Indeed, the historic environment research framework that has recently been developed for Scilly[1] reaffirms the importance of the issues identified by Ashbee (especially transitional periods and processes, such as the Mesolithic–Neolithic interface), while also noting the significant potential of intertidal and marine archaeology, the reassessment of existing archives and the application of scientific techniques such as lipid analysis.

In studying the origins and nature of Scilly's Neolithic the challenge is to frame research questions that do more than unveil a hidden Neolithic that, once glimpsed, will be familiar and recognisable. In short, future research must do more than perpetuate expectations about the nature of Neolithic societies; expectations based on what is already known about other parts of the Atlantic Seaboard and beyond.

The challenge is not simply to add to the corpus of Neolithic sites, monuments and artefacts in Scilly. While fieldwork and the re-assessment of museum archives will probably add to the handful of sherds, lithics and pits that pre-date the 2nd millennium BC in Scilly, it is more important that archaeologists rise to the challenge of defying their own expectations and assumptions about life and ritual in the 5th–3rd millennia BC. The Neolithic that one might seek – characterised by pots, domesticates and monuments – may not exist in an easily recognisable form. This is not an argument in favour of island insularity. To the contrary, it is a call to think about the specific contexts in which island communities, such as those in Scilly, engaged with the Neolithic repertoire – through contact, interaction, mobility and acculturation along the Atlantic seaboard – and created life-ways that may have been distinct from those in the Neolithic heartlands on which archaeological expectations are invariably based.

Transition in the western seaways: the context of Scilly in the 5th and 4th millennia BC

Alasdair Whittle (2003, 150) has accurately described the process of Mesolithic–Neolithic transition as 'stubbornly and frustratingly unclear'. However, if we are to understand Scilly in the 5th and 4th millennia BC, we must grasp something of the fragmented and fluid processes of transition as they pulsed to different rhythms and tempos across the western seaways.

I begin with the premise that Scilly was (as it is today) within the sphere of influence of maritime communities inhabiting the western seaways. Connecting north-west France, southern England, west Wales, southern Ireland, the Isles of Man, western Scotland, the Hebrides, Orkney and Shetland, the western seaways witnessed complex, multi-stranded processes of transition during the 5th and 4th millennia BC. The models of transition that have emerged in recent years highlight multiple influences flowing in myriad directions, with a complex interplay of colonisation, contact and acculturation at the heart of the process of transition (Garrow & Sturt 2011; Pailler & Sheridan 2009; Sheridan 2000; 2003; 2004 2010; Whittle *et al*. 2011). In some respects these approaches contrast the models of folk movement and maritime trade that dominated most 20th century research (e.g. Bowen 1972; Case 1969; Childe 1946; Fox 1932; Piggott 1954). In these earlier models the influence of established Neolithic communities emanated from the Low Countries and northern France, with colonisation – or occasionally the flow of ideas – being the driver of change. While colonisation is today placed in a wider socio-economic context than was common in the mid-20th century, the legacy of earlier studies should not be underestimated. As we shall see, Piggott's vision of 'the arrival at various points of the long coastline of the British Isles of smaller or larger groups of colonists from varied regions of the Atlantic and Channel coasts of western Europe' (1954, 15) is the direct forebear of several contemporary models (e.g. Pailler & Sheridan 2009; Whittle *et al*. 2011). Current opinions vary on the timing of colonist movement, as well as the size and origin of the colonist groups. The interplay of colonisation and acculturation also differentiates current study from the work of Piggott. However, the essence of Piggott's statement reminds us of the importance of historiography in archaeology. We can

only critically assess our expectations by firmly situating ourselves within the history of archaeology. In Scillonian prehistoric studies the benefits of historiographical sensitivity are exemplified by Robinson's (2007) apparent reluctance to acknowledge and to analyse the contributions of earlier researchers. It is difficult to reconcile Robinson's (2007, 9) assertion that prehistoric cairns, cists, menhirs and settlements have been 'excluded from accounts of the islands' prehistory' with the detailed synthetic accounts of Ashbee (1974) and Thomas (1985) or, indeed, their forebears Hencken (1932) and O'Neil (1949). Robinson's downgrading of Charles Thomas's seminal *Exploration of a Drowned Landscape* to "a collection of themed essays selective in scope and chronology" (2007, 9) is also surely an incomplete and inaccurate analysis. Similarly, Robinson's claim that Ashbee (1974) 'lacks any interpretative or theoretical treatment of the archaeological data' (Robinson 2007, 6) surely flies in the face of the evidence. Ashbee's (1974; 1986) fusion of processual, cultural historical and anthropological analysis is deeply theoretical. It might also be claimed that Ashbee (1986) develops a position that chimes with some post-processual work on the 'dialectics of past and present' (Shanks & Tilley 1987).

During the final years of the 20th century critiques of colonisation shifted the emphasis to adoption (and adaptation) of Neolithic lifestyles by indigenous hunter-gatherers (Thomas 1991). A recent resurgence of interest in the Mesolithic–Neolithic transition has synthesised and transformed established models into three principle processes for change: indigenous acculturation (Thomas 2003; 2008), migration from the European mainland (Pailler & Sheridan 2009; Sheridan 2000; 2003; 2004; 2010) or a combination of the two (Garrow & Sturt 2011; Whittle 2007). This tripartite schema is, of course, too simplistic. Indeed, the schema is arguably false and misleading. For example, it masks important points of difference between scholars advocating colonisation as the main process for change. Sheridan (2004) and Pailler and Sheridan (2009) argue that Neolithic transition in Britain and Ireland was the result of multiple episodes of colonisation, at different scales, times and locations, from different continental sources, and for a variety of motivations. By contrast, Whittle *et al*. (2011) propose a dominant direction of travel and influence, beginning in south-east England and spreading at variable rates across Britain and Ireland. However, in common with Sheridan (2010), there is an acknowledgment that, once Neolithic practices had arrived in Britain, their adaptation and transmission was in part through acculturation by indigenous communities. The upshot is that acculturation and migration cannot be placed in discrete silos. To attach the labels 'colonisation' and 'acculturation' to different bodies of contemporary work is almost certainly to miss the subtle nuances contained in those studies.

The limits of polarised distinction between 'acculturation' and 'colonisation' become clearer from consideration of the debate between Julian Thomas and Alison Sheridan. While it is clear that Sheridan (2010) does not share Thomas's view that Britain's native Mesolithic communities were exposed to regular contact with continental Europe, Thomas emphasises that 'very sudden cultural change from the Mesolithic to Neolithic appears to be superimposed upon a more long-term shift from food-gathering to food-production' (Thomas 1999, 16). Thomas's comment emphasises the different faces of Neolithic life and, by extension, the defining features of Mesolithic–Neolithic transition: *cultural changes* (e.g. monuments and attitudes towards death and the body) entwined with or, implicit in Thomas's comment, contingent on *economic transition* (food-gathering to food-production). Elsewhere Thomas has suggested that 'the beginning of the Neolithic in Britain involved a series of

conjoined processes which nevertheless proceeded at different speeds, and any adequate explanation will need to address these overlapping temporalities' (Thomas 2004, 116). Therefore, while Thomas and Sheridan clearly do not agree on the degree and nature of contact between Mesolithic Britain and continental Europe, they each advocate sensitivity to the multiple strands and temporalities of contact and influence. Also, both Sheridan and Thomas acknowledge that colonisation and acculturation are inseparably intertwined phenomena rather than mutually exclusive models. That said, their views on the initial source, scale and timing of contact remain distinctive and, to a large extent, polarised.

In discussing the process of Neolithic transition many scholars specifically examine the actual routes that may have been taken by native British and/or migrating French communities (Callaghan & Scarre 2009; Sheridan 2010; Whittle *et al*. 2011). Pailler and Sheridan (2009) propose four episodes of colonisation emanating from different parts of France between 4300 and 3800 BC (Fig. 8.1).

1. *c. 4300 BC: Neolithic 'false start'* – Pailler and Sheridan argue that the domesticated cattle bones from Ferriter's Cove (Co. Kerry, Ireland; Woodman *et al*. 1999) that are radiocarbon dated to 4495–4195 cal BC indicate contact between indigenous south-west Irish communities and Neolithic groups in the Morbihan.
2. *4300–4000 BC: Atlantic façade, Breton* – this phase of contact is evidenced by Breton-style passage graves in west Wales (e.g. Carreg Samson, Pembrokeshire) and north-west Ireland (e.g. Carrowmore, Sligo) and by the Castellic-style vessel from Achnacreebeag (Argyll and Bute, western Scotland).
3. *4000–3800 BC: Carinated bowls* – population expansion leads to the colonisation of eastern Britain by northern French groups bringing Chasséen/Michelsberg ceramic traditions, causewayed enclosures and flint mines.
4. *3900–3800 BC – Trans-Manche Ouest* – a shared tradition of simple passage graves in Normandy (e.g. Vierville, Manche), Brittany (e.g. Ile Carn, Finistère) and Devon (Broadsands) and parallels between Middle Neolithic II Norman pottery and Hembury Ware in south-west England suggest a period of colonisation which coincides with a 'clearing out' of Lower Normandy in the 39th century BC (Marcigny *et al*. 2007).

Conversely, as noted above, Whittle *et al*. (2011) favour an introduction of the Neolithic into south-east England around 4000 BC. By contrast, Collard *et al*. (2010) use density of radiocarbon dates as a proxy for population size, concluding that Wessex was the initial point of arrival around 4000 BC, with subsequent expansion beyond the Wessex heartland.

It is clear that any study of Neolithic Scilly must reflect on the range of possible influences upon the islands. Does the archaeological evidence indicate contact and influence directly from Brittany and Normandy? Or are the major influences from south-west England, itself already affected by contact with mainland Europe? Also, what was the dynamic between the conjoined processes of colonisation and acculturation?

In their assessment of the Mesolithic–Neolithic transition in the western seaways, Garrow and Sturt (2011, 60) argue that most approaches to transition are 'black' and 'white', with a stark choice offered between colonisation and indigenous acculturation. They advocate 'a greyer picture – one that allows room for both small-scale colonisation *and* indigenous acculturation (e.g. Whittle 2003; Cooney 2007; Cunliffe 2008)'. While there is nothing especially new in this stance (see previous discussion of

the Mesolithic–Neolithic transition), the ‘greyer picture’ espoused by Garrow and Sturt emphasises two important points about the process of Neolithisation. First, that the movement of people and ideas – an element of which is inherent in both colonisation and acculturation – was multi-directional; there was no single direction of travel, influence or change. That is to say, processes of change – however they are defined – were probably driven by both Neolithic and Mesolithic mariners. Therefore, Garrow and Sturt (2011, 60, 69) confirm the importance of maritime connections in the process of Neolithic transition, and see neither ‘Neolithic colonists’ nor ‘Mesolithic indigenes’ as ‘holding sole responsibility for the resultant changes’ (Garrow & Sturt 2011, 69).

Second, Garrow and Sturt (2011, 69) argue that if we continue to identity the ‘Mesolithic’ and the ‘Neolithic’ as two distinct entities or lifestyles, then subtle nuances of change in the 5th and 4th millennia BC will almost certainly elude us. We must challenge any assumption that the ‘Mesolithic’ and ‘Neolithic’ were necessarily characterised by distinctly different life-styles. Also, we must challenge the expectation that a single life-style was dominant in each period. To the contrary, we must tease out those elements of continuity which span the ‘Mesolithic’ and ‘Neolithic’, effectively eliding and blurring the traditional boundaries between the two periods. Similarly, we must expect variation in life-styles within each traditional ‘period’ and, indeed, in different regions through time. The challenge is to examine conjoined social and economic processes operating at different spatial and temporal scales. These processes include the emergence of monumentality, new forms of material culture, pit digging, structured deposition, settlements, the transition to farming and the retention of hunting, gathering and fishing.

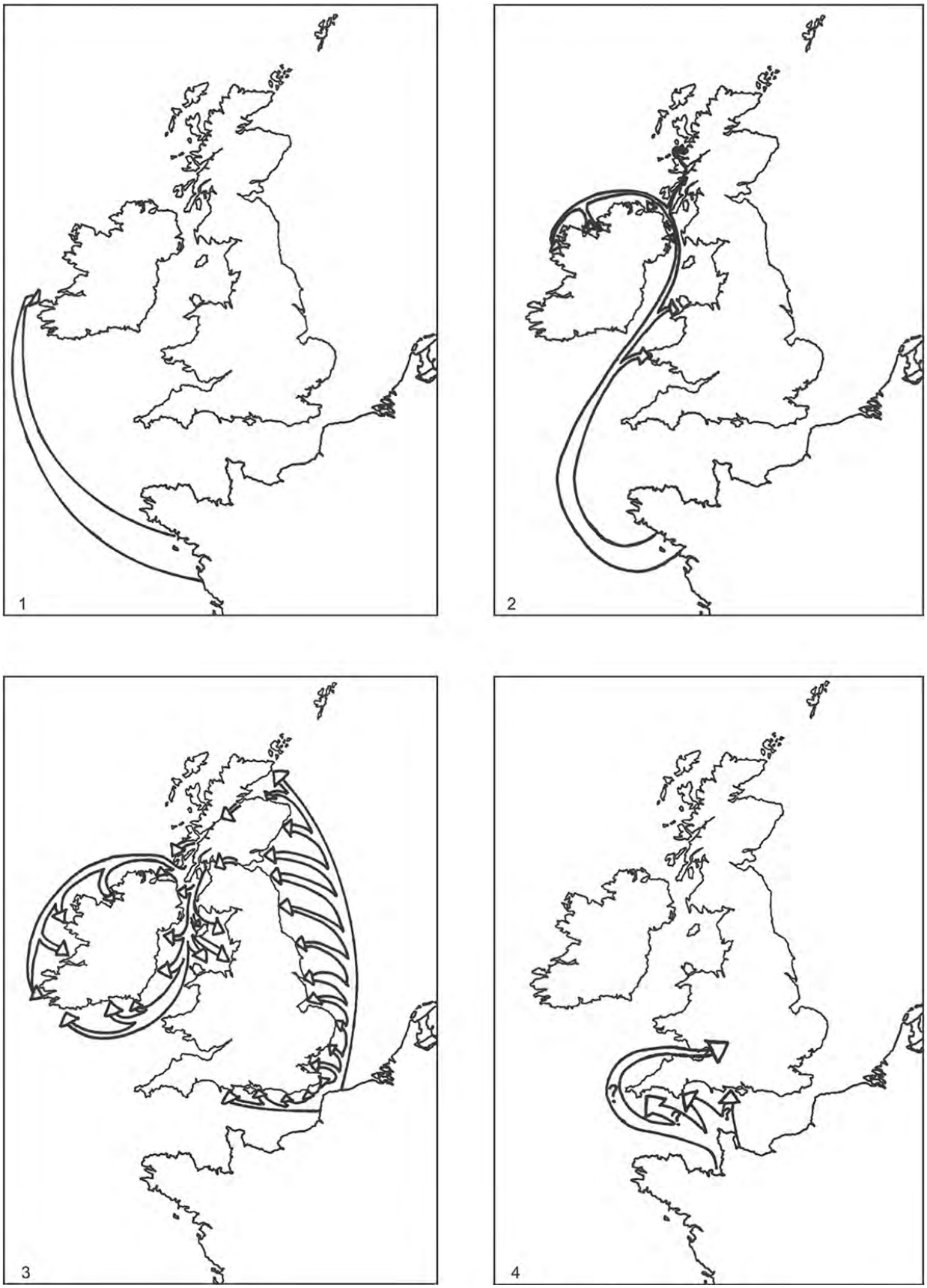

Figure 8.1 Pailler and Sheridan's (2009) multi-strand model for the Neolithisation of Britain and Ireland (from Sheridan 2010, 22). 1. c. 4300 BC: Neolithic 'false start' (Ferriter's Cove, Co. Kerry, Ireland); 2. 4300–4000 BC: Atlantic façade, Breton; 3. 4000–3800 BC: Carinated bowls; 4 3900–3800 BC, Trans-Manche Ouest

Table 8.1. 'Greying' the process of Neolithic transition (Garrow & Sturt 2011)

BLACK	*WHITE*	*GREY*
Colonisation	Acculturation	Colonisation & acculturation
Active Neolithic population	Passive Mesolithic communities	Multi-directional influences
Neolithic lifestyle	Mesolithic lifestyle	Multiple & fluid states of being

To summarise, Garrow and Sturt (2011) propose three ways of 'greying' the process of Neolithic transition (Table 8.1).

In the remainder of this chapter I will consider the ways in which the Isles of Scilly may have been involved in the process of Mesolithic–Neolithic transition and the development of Neolithic influences in Scilly to the middle of the 3rd millennium BC. The assessment tacks back and forth between the local circumstances of Scilly and its context within the western seaways.

Trees, seas and people: Scilly in the 6th and 5th millennia BC

Recent analysis of intertidal peat deposits at Porth Hellick, St Mary's indicates the establishment or expansion of oak–hazel woodland in the Early Mesolithic (9750–9280 cal BC, OxA-23858 and 9450–9280 cal BC, SUERC-32915) (Charman *et al*. forthcoming). However, it is in the 6th millennium BC that a clearer picture of the Scillonian landscape emerges. Perhaps surprisingly, the emerging picture is one of remarkably diverse environments at the transition to the Neolithic.

Palynological evidence from Higher Moors, St Mary's indicates oak woodland, with some elm and ash and an under-storey of hazel in the late 6th millennium BC (5480–5060 cal BC, HAR-3695) (Ratcliffe & Straker 1996, 29–31). Birch scrub is also represented, perhaps indicating woodland regeneration following small-scale clearance by gatherer-hunters (Scaife 1984, 39), though it is equally possible that birch was an important component of Scilly's native woodland (Ratcliffe & Straker 1996, 31). Late Mesolithic–Early Neolithic intertidal peats at Par Beach on St Martin's indicate mixed deciduous woodland of oak, hazel, birch, lime, elm, holly, alder and willow (Ratcliffe & Straker 1996; Hosfield *et al*. 2008, 41). In general terms, the evidence from Higher Moors and Par Beach paints a picture of native mixed deciduous woodland, with possible evidence of minor clearance by late gatherer-hunter communities. While writing of later prehistory in Scilly, Ashbee (1986, 194) reminds us of the potential demand for wood, including building, domestic fuel, oil rendering and even funerary pyres. While these demands cannot all be demonstrated in Scilly during the 6th and 5th millennia BC, some of these activities could have contributed to woodland clearance, along with the oft-cited clearance of woodland to attract game to lush secondary re-growth (Mellars 1976).

Wood samples from a submerged forest in St Mary's Roads have produced dates ranging from 5310 5060 cal BC (SUERC-26629) to 4800–4620 cal BC (SUERC-26631) (Charman *et al*. forthcoming). The associated pollen sequence indicates that herb-rich grassland was gradually colonised by oak, birch and hazel woodland. A subsequent peak in birch and decline in oak are associated with a large peak in charcoal, perhaps indicating woodland clearance. Oak woodland recovers, accompanied by willow (possibly indicating localised wet zones), before a final change to open marsh, initially dominated by sedges but succeeded by grasses. This sequence of apparently rapid change in the Mesolithic environment (late 6th to mid-5th millennia BC) may be partially skewed by the compression of deposits, with events possibly occurring over a longer period (Charman *et al*. forthcoming).

Sub-tidal deposits between St Martin's and Nornour indicate open salt-marsh and limited woodland in the Later Mesolithic (5310–5050 cal BC, SUERC-32919) (Charman *et al*. forthcoming). The presence of Mesolithic people is indicated by small lithic assemblages on St Martin's (Old Quay and Knackyboy Carn), Bryher (the Brow, the Town, Veronica Farm), St Mary's (Porthcressa and Halangy Down) and Tresco (New Grimsby) (Kirk 2012). The cliff-face site at Old Quay, St Martin's has yielded Mesolithic and Neolithic flints, as well as sherds of Earlier Neolithic Hembury-style pottery (analogous material in south-west England is dated c. 3800 BC). Some of this material probably derives from pits. However, the site is poorly understood, despite its potential to inform us about the Mesolithic–Neolithic transition in Scilly.[2] A research focus on sites with Earlier Neolithic Hembury-style pottery (e.g. pits at East Porth, Samson; cliff-face site at Bonfire Carn, Bryher) may equally provide further insights into the nature of the Mesolithic–Neolithic transition in Scilly.

In summary, the later Mesolithic environment was a mixture of oak forest, perhaps with localised clearance, some wetland areas suited to fowling, including open marsh which, by the mid-5th millennium BC, may have also included some grassland. There is evidence of temporary and presumably episodic visits by hunter-gatherer-fisher communities during the 6th and 5th millennia BC. It is possible that these communities were drawn to Scilly by the opportunities that were available for fish trapping on the coastal flats (Paul Rainbird pers. comm.), off-shore fishing, seal hunting and fowling. While there are no red deer assemblages dating to the Mesolithic in Scilly, Ashbee (1986, 194) has argued for an 'insular, controlled deer economy' and implies that deer may have been introduced as early as the Mesolithic.

Pots, pits and monuments: Scilly in the 4th and 3rd millennia BC

Scilly in the later 4th millennium BC comprised one main island (St Mary's, St Martin's, Tresco, Bryher, Samson and the Eastern Isles) plus three smaller island groups to the south and west (St Agnes, Annet and the Western Rocks) (Fig. 8.2) Evidence of Early Neolithic influence (c. 4000–3400 BC) is limited to pits containing Hembury-style pottery at East Porth, Samson (Neal & Johns forthcoming) and Old Quay, St Martin's (Jones 2012); a midden containing Hembury-style pottery at Bonfire Carn, Bryher; polished stone axes on Bryher and Gugh (Hencken 1932) (though their attribution to the Early Neolithic is not certain) and possible leaf-shaped arrowheads.[3] In the Later Neolithic (c. 3400–2500 BC) the artefactual evidence does not change significantly in nature or quantity, comprising stone adzes from beneath the Knackyboy Carn entrance grave, St Martin's (O'Neil 1952) and from the western shoreline of Bryher (Jones 2012) and occasional barbed and tanged arrowheads. Lithic

collections, often of unknown and mixed provenance, include scrapers, awls and knives that would not be out of place in Later Neolithic and Bronze Age assemblages, though Earlier Neolithic forms are not obviously present (Pannett 2007)

The nature of Neolithic settlement is a key research theme throughout Britain and Europe (Armit *et al*. 2003; Thomas 2008; Whittle & Cummings 2007). The paucity of Neolithic evidence in Scilly may indicate transient and mobile communities that did not establish permanent settlements. However, it may also be significant that the main Neolithic island's low-lying central zone, where settlement may have been concentrated, is now inundated.

The digging of pits and the placement of structured deposits are central research themes in British later prehistoric archaeology (Anderson-Whymark & Thomas 2012; Bradley 1990; Bradley 2007; Richards & Thomas 1984). Pit digging and structured deposition may have forged links between people and place, especially in prehistoric communities practising a degree of residential mobility, as appears to have been the case in Scilly until the 3rd millennium BC. While Neolithic pits remain rare in Scilly, two pits at East Porth, Samson contained the largest assemblage of Early Neolithic pottery so far recorded in Scilly. The same pits also contained some carefully selected stones and a fragment of pumice (Neal & Johns forthcoming). Neolithic pottery has also been found in association with a pit in the cliff face at Old Quay, St Martin's (Quinnell 1994). One sherd from Old Quay may be of Lizard gabbroic clay (Quinnell 1994). If confirmed, this sherd would be the only known ceramic import during the Neolithic.

While the degree of residential mobility in the Neolithic remains unknown, pollen from intertidal peats at Par Beach, St Martin's and Porth Mellon, St Mary's (Ratcliffe & Straker 1996, 19 & 25) suggest that Earlier Neolithic oak woodland was progressively cleared (probably through small-scale localised disturbance) with birch becoming the dominant tree species by the end of the 4th millennium BC.

Monumentality in the 4th–2nd millennia BC

The main later prehistoric monument forms in Scilly are entrance graves, cairns and standing stones. Ashbee's (1986) call for work on the chronology of these monuments remains largely unanswered. For example, there are no radiocarbon dates for entrance graves in Scilly, though dates were recently commissioned for Knackyboy Cairn, St Martin's and Obadiah's Barrow, Gugh, as well as a cist burial from Old Town, St Mary's (Katharine Sawyer pers. comm.) The chronology of Scilly's cairns and standing stones is also unknown, though typological comparison would suggest an Early Bronze Age date. However, a Neolithic date cannot be ruled out for either the standing stones or, theoretically, some of the cairns. Similarly, some of the cairns could equally date to the Middle Bronze Age.

In the context of this chapter on Neolithic Scilly, I suggest that deconstruction of the entrance grave monument class might be especially instructive. Currently, the dating of Scilly's entrance graves is based on monument typology, most notably comparison with entrance graves in West Penwith, Cornwall, as well as parallels in material culture. The balance of evidence – monument form, ceramics, metalwork and radiocarbon dates[4] – points to an early 2nd millennium BC date for Scilly's entrance graves. However, it is important to note that entrance graves do not form a coherent monument class. A wide range of monument forms are combined under a single heading; sealed chambers and cists, open chambers accessed by a passage, large and small cairns, single and multiple revetments, and the

possibility of multi-phase monuments (though excavation is required to clarify the biography of Scilly's entrance graves). It is imperative that future fieldwork addresses the origins, dating and functions of entrance graves, not as a single monument group, but as a network of related monument types with potentially different origins, purposes and biographies. For example, the presence of disarticulated human remains in the basal layers of Obadiah's Barrow, Gugh (Hencken 1933, 22) is reminiscent of Earlier Neolithic funerary rites (Fig. 8.3). Also, it has long been argued that Bant's Carn and the Giant's Tomb at Porth Hellick, St Mary's (Fig. 8.4) are passage graves as opposed to entrance graves: 'Only the two largest tombs [Bant's Carn and the Giant's Tomb] are passage graves, and all the others, which are even smaller, are covered galleries' (Hencken 1932, 20).[5]

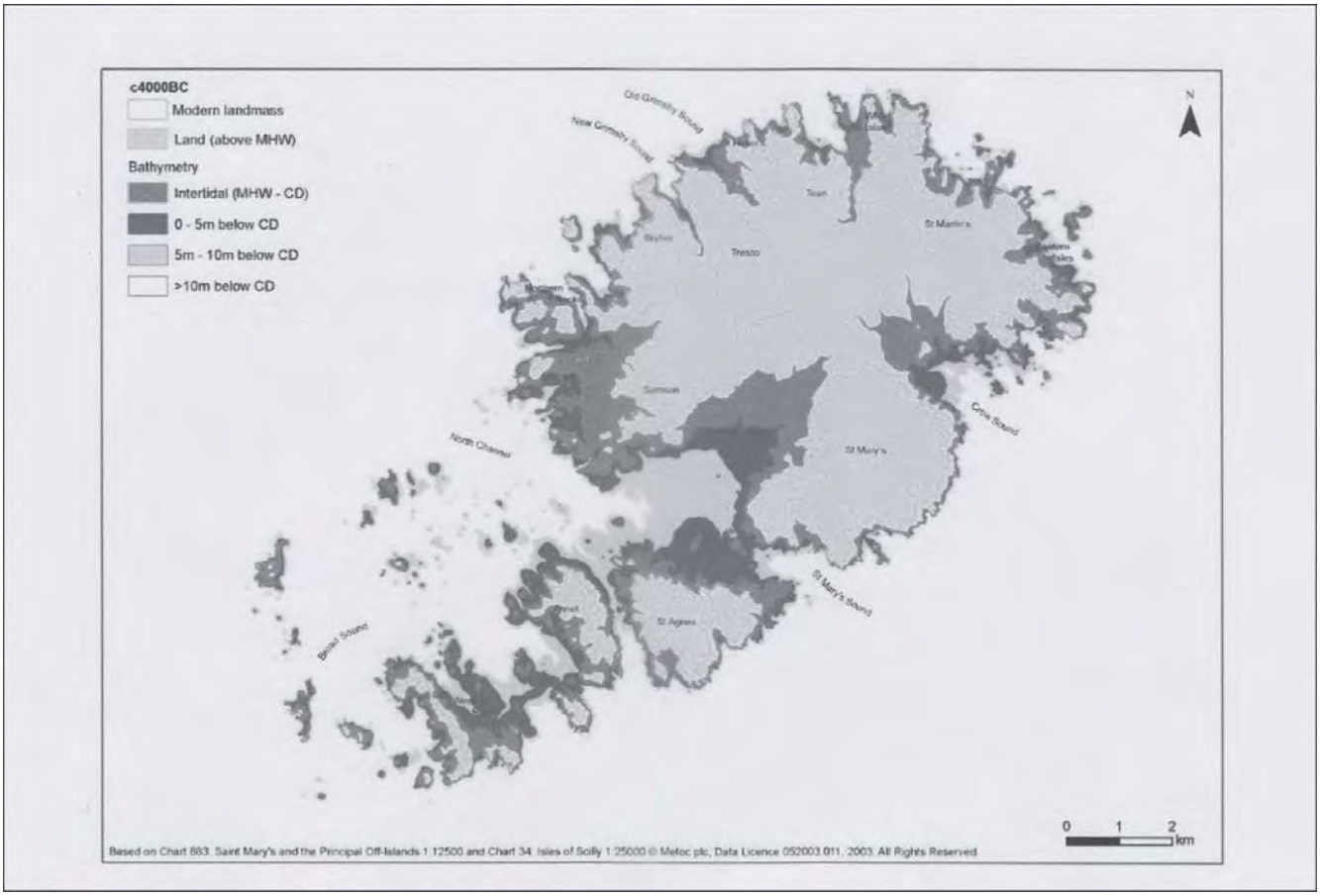

Figure 8.2 Inferred submergence model (c. 4000 cal BC) and Neolithic coastal sites (based on data from Ratcliffe & Straker 1996; source: Cornwall Council, Historic Environment Service)

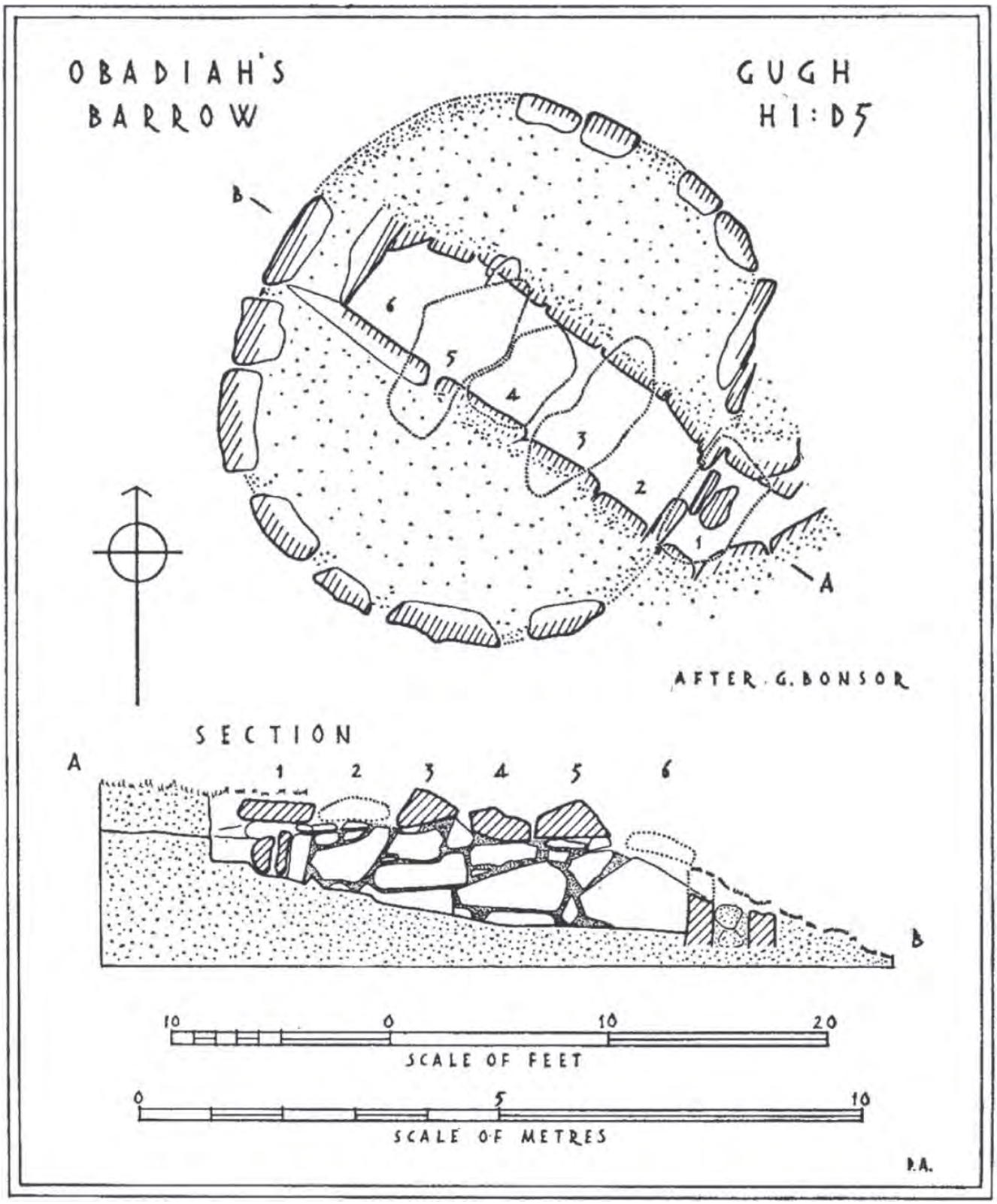

Figure 8.3 Obadiah's Barrow, Gugh, Isles of Scilly (after Ashbee 1974, 93)

Robinson (2007, 9) reports Paul Ashbee's caution that preservation rather than design may be the reason for apparent distinctions between passage graves and entrance graves. I accept Ashbee's point and agree that more passage graves may slumber unidentified in the catalogue of Scillonian entrance graves. The most obvious candidates are Obadiah's Barrow (on the evidence of the angled passage or ante-chamber recorded by Bonsor) and Salakee Down, St Mary's, where Grimes (1960, 177) identified

a curving passage similar to the Giant's Tomb. Whatever their number, I argue that passage graves are a distinct and definable monument group in Scilly. Moreover, to subsume these monuments within the class of entrance graves does not encourage clarity of thought about their origins, development and functions. For this reason, I will here briefly discuss Scilly's passage graves and entrance graves separately. By so doing I hope to shed some light on their respective roles in the socio-economic development of prehistoric Scilly, with passage graves potentially finding a place in the 4th/3rd millennia lacunae that currently exists in Scilly.

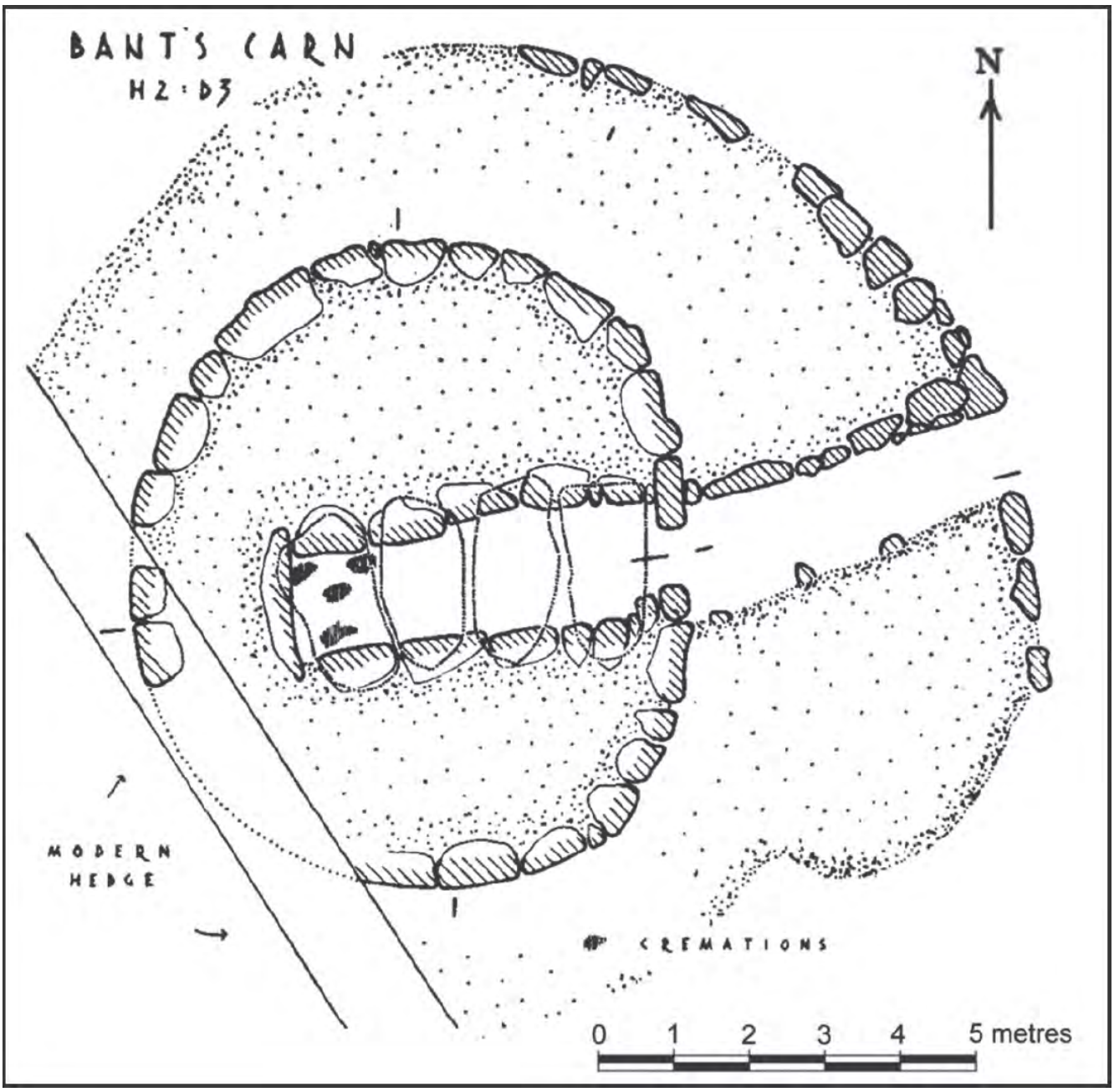

Figure 8.4. a. Bant's Carn (Halangy Down)

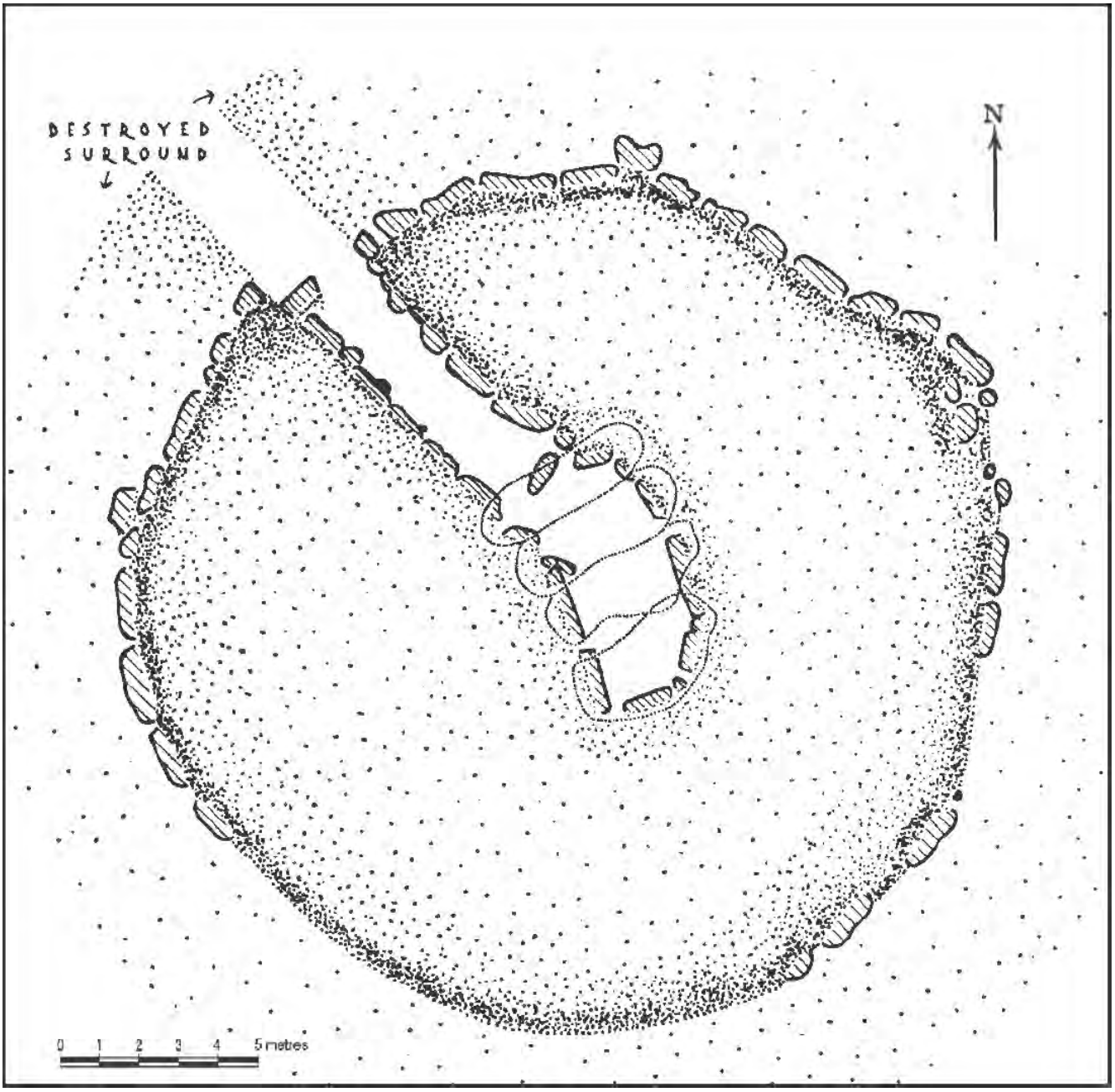

Figure 8.4. b. Giant's Tomb (Porth Hellick), St Mary's, Isles of Scilly (after Ashbee 1974, 80 & 81)

Passage graves

Four features link Bant's Carn and the Giant's Tomb to the Breton and Norman passage grave tradition: differentiation of passage and chamber, angled passages, threshold stones and multiple revetments.

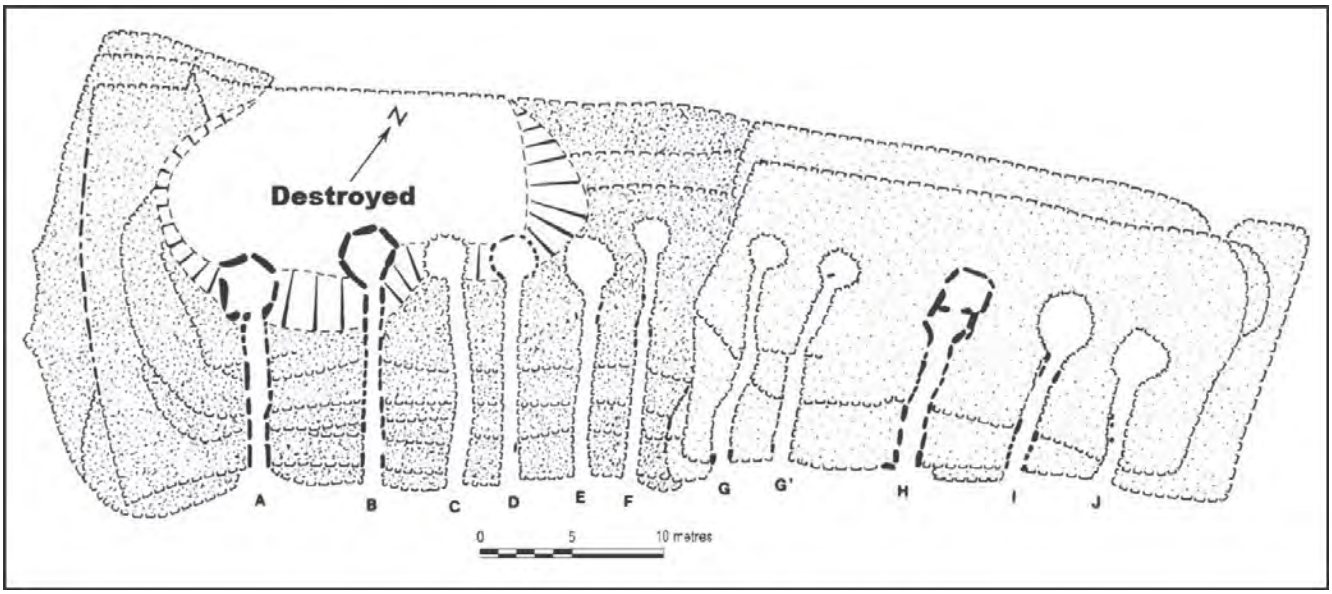

Figure 8.5 Barnenez, Plouézoc'h (Finsitère; from Scarre 2002, 91; after Giot 1987)

The physical, symbolic and psychological marking of transition from passage to chamber is one of the defining characteristics of passage grave architecture. The relevance of this architectural feature, including its role in the grading of ritual space, has been thoroughly debated elsewhere (Kirk 1993; Richards 1993; Thomas & Tilley 1993). Two devices are used to mark the transition from passage to chamber at Bant's Carn and the Giant's Tomb: angling of the passage and the use of threshold stones. Direct parallels with the Breton angled passage graves (*allées coudées*) are not justified, with the possible exception of Kergonfals, Bignan (Morbihan) (Daniel 1960). However, the 'misalignment' of passage and chamber at Bant's Carn and the Giant's Tomb is a feature of many Breton passage graves including Ile Guennoc IIB and IIC, Landéda (Finistère) and Barnenez G, G^1, H and J, Plouézoc'h (Finistère) (Giot 1987) (Fig. 8.5). The free-standing uprights at the junction of passage and chamber at Ile Guennoc III and Barnenez G^1 may also be referenced by the threshold stone constricting access to the Giant's Tomb chamber. The projecting stones that restrict access to the Bant's Carn chamber also find parallels in Breton passage graves such as Ile Longue, Larmor-Baden (Morbihan). However, it is important to note that these Breton parallels are evocative rather than precise; perhaps indicating a shared ancestry rather than a common date and function. For example, many of the possible Breton parallels are multi-chamber monuments, a phenomenon not known in Scilly. The scale of some of the Breton passages, chambers and cairns – most notably Barnenez – also dwarfs anything known in Scilly. Rectangular cairns accommodating multi-chambers at, for example, Barnenez and Ile Guennoc I–III do not find immediate parallels in Scilly where the cairns enclosing Bant's Carn and the Giant's Tomb are circular. However, in Brittany and Normandy single passage graves are invariably enclosed within circular mounds, with rectangular cairns mainly enclosing multiple passage graves (the single chamber of the large rectangular cairn at Colombiers-sur-Seulles, Calvados being a notable exception – Chancerel *et al*. 1992). Therefore, the shape and design of cairns at Bant's Carn and the Giant's Tomb cairns are within the architectural repertoire of early Breton and Norman single passage graves.

The absence of engraved art in Scilly also distinguishes the Breton comparators from the Scillonian passage graves, though art is not an invariable feature in Breton passage graves. Finally, while corbelled roofing is a feature of some passage graves, including Barnenez and Ile Longue, it is

not universal, with many smaller passage graves featuring orthostatic and dry-stone walls topped by flat capstones, as at Bant's Carn and the Giant's Tomb.

Bant's Carn (Fig. 8.4a) and the Giant's Tomb also feature multiple revetments of the type common at Breton passage graves; for example, at Ile Longue, Larmor-Baden (Morbihan), Dissignac, Saint-Nazaire (Loire-Atlantique), Barnenez, Plouézoc'h (Finistère) and Ile Colpo, Larcuste (Morbihan). Multiple revetments, known also in Scilly at Upper Innisidgen on St Mary's, may in some circumstances imply multiple phases of construction. However, further excavation is required in Scilly to elucidate this important aspect of monument biography.

The quest for precise parallels for the Scilly passage graves is perhaps less important than the observation that Bant's Carn, the Giant's Tomb and possibly Obadiah's Barrow and Salakee Down stand apart from the other Scillonian entrance graves. Moreover, the salient features – distinction between passage and chamber, angled passages, threshold stones and multiple revetments – suggest a reclassification of these monuments as part of the Atlantic passage grave tradition. Excavation is required to date these monuments and to establish their biographical detail (for example, how many are multi-phase monuments?). In the meantime, assuming that the affiliation is not to the angled passage graves, which are late in the passage grave sequence, the key features of the Scillonian passage graves suggest a relatively early date. While many of the southern Breton (Morbihan) parallels noted in this chapter would support a date as early as 4300–4000 BC (in line with Pailler and Sheridan's *Atlantic facade, Breton* phase of Neolithic colonisation), the small passage grave at Broadsands, Devon – recently dated by Bayesian modelling to 4121–3712 cal BC (95% probability) – may suggest that the introduction of early monuments to Scilly was a complex multi-phased process, spanning also the *Trans-Manche Ouest* phase (3900–3800 BC).

The absence from Scilly of classic Neolithic passage grave assemblages – pottery, lithics and human remains – is notable and requires explanation. The key lies in Grimes's (1960, 176–178) observation that Knackyboy Cairn, St Martin's is the only chambered tomb in Scilly in which Early/Middle Bronze Age urn cremations are demonstrably primary. Elsewhere, and most notably at Bant's Carn and the Giant's Tomb, there is no evidence that Bronze Age cremations are primary deposits, much less that they date the construction of these monuments. Furthermore, the disarticulated skeleton sealed beneath the Bronze Age cremation urns at Obadiah's Barrow may indicate a Neolithic date for this monument. The Bant's Carn sherds that Bonsor attributed to the Neolithic are no longer considered to be so early and are not part of this argument (Jones 2012, 9). Conversely and intriguingly, the Giant's Tomb contained a fragment of pumice, the only other instance of which in Scilly is sealed in a pit with Early Neolithic pottery at East Porth, Samson (Neal & Johns forthcoming). I make no claim that pumice was only traded in the Early Neolithic. Rather, the pattern is simply suggestive; Scilly has produced two pieces of pumice, one in a sealed Early Neolithic context, and the other in a chambered tomb that contains a disarticulated skeleton reminiscent of Early Neolithic mortuary practice. Once again, excavation is required to demonstrate the origins and dating of the Scillonian passage graves and associated landscape features, such as the pits at East Porth, Samson and Old Quay, St Martin's.

Entrance graves

Jones and Thomas (2010) have recently summarised the cultural affiliations of entrance graves in Cornwall, including possible relationships with Clava Cairns (Inverness, Scotland), the Bargrennan

group (Dumfries & Galloway, Scotland), the Tramore group (Co. Waterford, Ireland) and monuments in the Channel Islands such as Le Trépied, Guernsey (Daniel 1960, 67). The detail of Jones and Thomas's review does not need to be repeated here. Suffice to note that the balance of evidence suggests that entrance graves in Scilly date to the Early Bronze Age. The persistence of a megalithic tradition into the 2nd millennium BC is known elsewhere in Britain and Ireland, including the Clava Cairns of Inverness (Scotland) and the Tramore group of Co. Waterford (Ireland).[6] Darvill (2010) suggests that these late monuments, which cluster along the western seaways, are a response to the social and cultural pressures associated with the arrival of dominant new Beaker traditions, including single inhumation and metalwork. Darvill (2010) coined the term *passage grave refugia* to describe the retention of monumental architecture threatened by the arrival of new traditions. In Darvill's model late monuments such as entrance graves were used to counter social and ideological changes associated with the use of Beakers, such as single inhumation and new trade networks, including the circulation of metalwork.

There is some evidence that Scilly was involved in 2nd millennium BC trade networks, including during the Beaker period (c. 2500–2000 BC). For example, O'Neil recovered 'pieces of bronze – a hook, and perhaps a handle from a brass-bound wooden box or bucket' (O'Neil 1952, 30) from Knackyboy Cairn. Ashbee (1974, 241) suggests that the hook may be part of an ear-ring, while the 'handle' is comparable with an object from Garton Slack, East Yorkshire. Knackboy Cairn also produced one star-shaped faience bead and eight glass beads (O'Neil 1952) that probably date to the 2nd millennium BC. A copper-alloy awl from Obadiah's Barrow, Gugh (Hencken 1932, 27) also demonstrates Scilly's involvement in 2nd millennium BC trade networks. Barbed and tanged arrowheads are known from unspecified locations in Scilly (Pannett 2007). Stone axes have also been found in Scilly, but again their precise provenance is often uncertain. Moreover, the date of many of these axes is unknown. However, significant finds include a battle-axe from Normandy, St Mary's, a pointed-butt greenstone axe from Gugh and a cushion mace-head from Bryher (Ashbee 1974, 236). Research is required to identify the precise provenance of non-local stone used to manufacture many of the axes found in Scilly. However, probable materials include dolerite, greenstone, cornelian, agate and quartzite, as well as possible West Penwith sources of slate, tourmaline, sandstone and lamprophyre (Robinson 2007, 136–137).

The evidence for 2nd millennium BC trade in Scilly suggests 'a tradition of adopting some things but rejecting others' (Jones 2012, 30). The most notable rejection is Beaker pottery which is not proven in Scilly.[7] Beakers are known in Cornwall (Jones 2005), as too is Late Neolithic Grooved Ware (another absentee in Scilly). However, Beakers may have been adopted relatively late in Cornwall (Jones and Quinnell 2006) where they were used alongside existing local pottery traditions. Therefore, in Cornwall local identity is asserted within the context of pan-British (even pan-European) networks of interaction and contact. By contrast, in the 2nd millennium BC Scilly had a distinct identity that was expressed through the development of entrance graves and the rejection of Beaker pottery. Yet at the same time Scilly was part of the wider world of trade and exchange, receiving some goods such as axes, faience and glass beads, and metalwork. However, 2nd millennium BC imports are rare. It appears that the forces and benefits of contact with south-west England and, indeed, communities throughout the western seaways were mediated and played out in relation to a strong sense of local identity. As Jones (2012, 30) suggests 'people may have wanted to affirm wider ancestry and

connections at some times but a more local identity at others'.

A single calf's tooth from Par Beach, St Martin's was recently radiocarbon dated to 2270–2030 cal BC (OxA-X-2465-6) (Charlie Johns pers. comm.) In the absence of earlier dated cattle remains from Scilly it is tempting to consider the implications in terms of Scilly's network of contacts at the end of the 3rd millennium BC. Beakers are absent from Scilly despite the growing number of recent discoveries of Beaker pottery in Cornwall (Jones & Quinnell 2006). It is possible that cattle were traded to Scilly as opposed to other prestige items such as pottery. The effect would have been to confirm the anachronistic set of symbols favoured in Scilly's late 3rd and early 2nd millennium BC *refugia* (Darvill 2010)

The role of cairns, standing stones, field systems and settlements in mediating the dialectic of local identity and social interaction is beyond the scope of this chapter. Here I will simply note Ashbee's observation that where entrance graves have been 'carefully excavated' (e.g. Knackyboy Cairn, Salakee Down) they 'contained minimal deposits of human remains or just quantities of pottery and soil. Such deposits were comparable with the buried settlement debris that was a feature of many English long barrows … and causewayed enclosures' (1986, 198). From this evidence Ashbee infers that soil impoverishment may have been a major challenge in the 2nd millennium BC:

> The long standing interpretation of Scillonian chambered cairns as collective tombs obscured the possibility that their prime function might have been other than mausolea. Regarded as cult structures each containing a foundation deposit rather than burials in the long accepted sense, conceived and constructed as a response to soil impoverishment and loss of fertility, a new approach was possible. (Ashbee 1986, 199)

Concluding thoughts

Despite the limited archaeological evidence for the Neolithic in Scilly it is possible to sketch the general shape of the islands' relationship with other communities in the western seaways during the 5th–3rd millennia BC. Context is everything. In the 6th and 5th millennia gatherer-hunter-fisher groups probably visited Scilly periodically, drawn by rich fishing grounds both off-shore and in the shallow waters around the islands. In the 4th and 3rd millennia BC occasional pits containing pottery and selected stone, including imported pumice, suggest that occupation continued to be periodic and mobile. However, I argue that Bant's Carn and the Giant's Tomb (perhaps along with Obadiah's Barrow and Salakee Down) should be reclassified as passage graves. The context for the introduction of this monumental tradition to Scilly may be either the *Atlantic facade*, *Breton* phase of colonisation (4300–4000 BC) or the *Trans-Manche Ouest* phase (3900–3800 BC) postulated by Pailler and Sheridan (2009)

While largely a footnote to the current chapter, though deserving extensive treatment in its own right, the 2nd millennium BC may have seen Scilly develop a strong local identity based on the highly regionalised entrance grave tradition. Selected rare imports suggest that Scilly remained in contact with other communities in the western seaways. However, rejection of Beaker ideology and practices may have led to the development of *monumental refugia*, with the entrance graves at the heart of that *refugia* being also a symbolic mechanism for addressing the challenge of soil impoverishment.

Notes

1 *Scilly Historic Environment research framework* (SHERF) is designed to complement the *South-west archaeological research framework* (SWARF) (Webster 2008) by developing objectives that resonate with the regional research framework, yet also draw out Scilly-specific challenges and opportunities. SHERF is sponsored by English Heritage with contributions from the Council of the Isles of Scilly, the Duchy of Cornwall and the Isles of Scilly Area of Outstanding Natural Beauty (AONB) Partnership.

2 Between 2011 and 2014 the universities of Liverpool and Southampton led a project on the Mesolithic–Neolithic transition in the western seaways (*Stepping Stones to the Neolithic? Islands, maritime connectivity and the 'western seaways' of Britain, 5000–3500 BC*), including survey and excavation at Old Quay, St Martin's.

3 Pannett (2007) suggests that two possible leaf-shaped arrowheads in the Isles of Scilly Museum may be poorly formed triangular arrowheads.

4 In Cornwall charcoal associated with the Collared Urn/Enlarged Food Vessel from Tregiffian is radiocarbon dated to 1960–1680 cal BC (BM-935) and cremated bone from Bosiliak chamber is dated 1690–1510 cal BC (SUERC-15589) and 1690–1500 cal BC (SUERC-15590) (Jones & Thomas 2010, 275).

5 Hencken (1932) followed Bonsor is using the term 'covered gallery' to describe what Childe (1940, 75) subsequently termed 'entrance graves'. Widespread acceptance of the term 'entrance grave' followed Hawkes's (1941, 144) adoption of the term to describe the Harristown megalithic tomb in Co. Waterford, Daniel's reference to 'undifferentiated passage graves or entrance graves' in his seminal study of chamber tombs in England and Wales (1950, 64) and O'Neil's (1949, 164–165) acceptance of the term as the preferred descriptor of the Scillonian monuments.

6 The latter group has often been regarded as closely related to the Scillonian entrance graves (Daniel & Powell 1949, 178), though an association with wedge tombs is also postulated (Grogan 2004).

7 A possible Beaker sherd with comb stamping and cord impressions has been found at Bonfire Carn, Bryher (Quinnell 1994), though its attribution to the Beaker period is uncertain.

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9

Rite to memory: Neolithic depositional histories of an Adriatic cave

Timothy Kaiser and Stašo Forenbaher

Excavations at Grapčeva Cave, a major eastern Adriatic Neolithic site, yielded evidence of ritual activities during the 5th millennium B.C. Structured deposits in the cave's main interior chamber included large burnt areas with extremely high frequencies of animal remains and artefacts, notably richly decorated Late Neolithic 'Hvar-style' pottery, as well as scattered human remains. It is argued that Grapčeva was a mortuary ritual site, where feasts, offerings, and secondary burials took place. These same activities produced and reproduced memories. At Grapčeva the materialization of memories came at a time when group histories and genealogies were gaining importance among the newly settled Neolithic food producers of the Adriatic.

Ever since scholars first began investigating the prehistoric cultures of the eastern Adriatic, the caves of Dalmatia have been the subjects of increasing archaeological interest. However, many of these caves are rather prosaic places, archaeologically speaking; nothing remarkable appears to have taken place within most of them during the distant past. Judging from the material remains accumulated over long periods of time inside the caves, it would appear that, for humans, the most attractive characteristic of Dalmatian caves was the shelter they afforded. Caves protected men, women, and their animals from storms, the midday sun, predatory animals, and/or unfriendly people. Still, the evidence suggests that some caves also served purposes beyond the basic requirements of human survival, as will be illustrated in this chapter.

Grapčeva Cave on the central Adriatic island of Hvar is one such site (Fig. 9.1). Structured deposits at Grapčeva reflect ritual offerings, feasting, and secondary burials that took place over the course of several centuries during the 5th millennium BC (all dates in this chapter are calibrated).

Large burnt features found at the site yielded high frequencies of animal bones and richly decorated pottery, as well as scattered human skeletal remains. By comparison with other periods at this cave, and with other contemporary Adriatic cave occupations, a preoccupation with ritual activities can be inferred at Late Neolithic Grapčeva. We argue that such activities created memories whose accretion was part of the formation and maintenance of identity in the Late Neolithic of the Adriatic.

Pottery styles have traditionally defined the chronology of the East Adriatic Neolithic: the 'Early Neolithic' is characterised by Impressed Ware pottery; a complex of pottery variants called Danilo is equated with the 'Middle Neolithic'; and the 'Late Neolithic' is defined by pottery known as Hvar style. The available radiocarbon determinations suggest that Impressed Ware came into use in the eastern Adriatic shortly before 6000 BC and went out of use about five centuries later, an impression that is supported by Bayesian modelling of the dates (Forenbaher *et al*. 2013). While several dates suggest a possible temporal overlap between Impressed Ware and the Danilo complex around the middle of the 6th millennium BC, these two distinct pottery styles do not mix at any clearly stratified cave site. To the contrary, several dates suggest that in some areas assemblages with only undecorated pottery separate the Impressed Ware and Danilo complexes around 5600 BC. In Dalmatia, most of the dates associated with Danilo pottery, considered 'Middle Neolithic', fall between 5300 and 4800 BC. Late Neolithic assemblages with Hvar style pottery date between 4800 and 4000 BC. Soon thereafter some elements of a new pottery style, Nakovana, began to appear in Dalmatia, heralding the transition from the Neolithic to the Copper Age (Forenbaher *et al*. 2013).

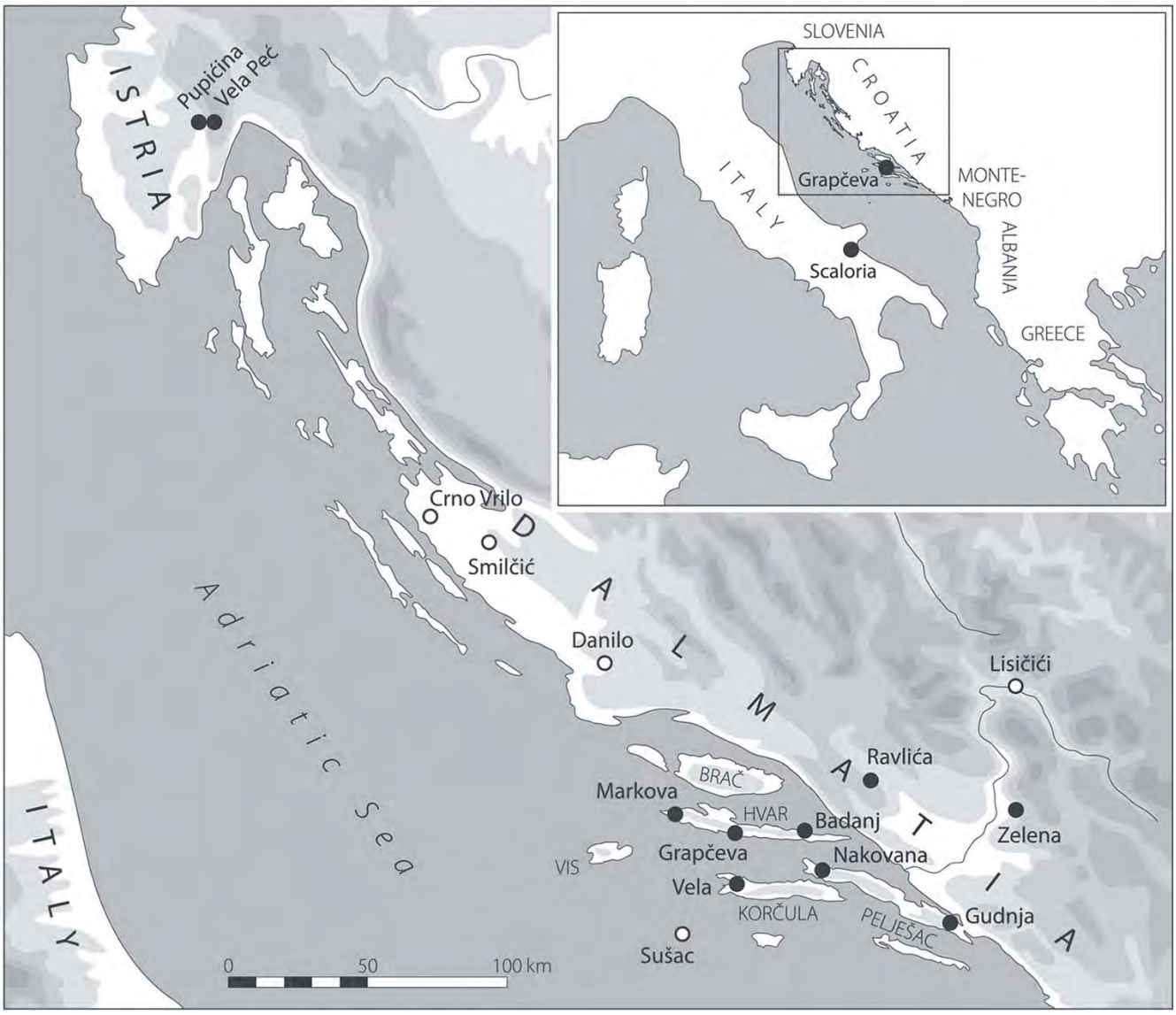

Figure 9.1 The Adriatic, showing the location of Grapčeva Cave and other sites mentioned in the text. Black: caves; white: open air sites

The setting

The Mediterranean region boasts several island groups which in prehistoric times comprised hubs of social, economic, and cultural activity. Of these, the eastern Adriatic's islands form the Mediterranean's second largest archipelago, with more than 1100 islands of varying size and configuration, following some 1200 km of coastline. Arranged in several rows roughly parallel to the coast, the islands are distributed across an area that is some 400 km in length (from Dubrovnik in the south-east to Pula in the north-west) and between 20 and 50 km in width (Fig. 9.1).

The Adriatic archipelago was formed in the relatively recent past. Before the present interglacial period, virtually all today's islands were part of the mainland, with only a few exceptions. After 12,000 BC, the rising sea-level produced by the Earth's melting icecap began to flood what were then the Dinaric Mountains' coastal valleys, and by 6000 BC the majority of the islands had more-or-less attained their current configuration (van Andel 1989; 1990; Forenbaher 2008a).

The islands' natural resources vary, but generally they are resource-poor, with little arable soil or

fresh water available. As with the mainland, the islands' landscapes are karstic, which means that agriculture requires a major investment of intensive labour to clear rocks from fields and to create terraces and cisterns – activities that go back at least to the Bronze Age (Chapman *et al*. 1996). Extensive tracts of stony land, and sometimes entire islands, are extraordinarily difficult to farm and are more productively exploited by turning to animal husbandry. Only a very few islands have relatively large expanses of land that can be farmed. Given the limits of traditional subsistence economies and technologies, a number of the larger islands could, however, have supported permanent populations subsisting on a mixture of agriculture, herding and fishing.

Although the archaeological evidence is variable, it appears that all the large islands were settled early in the Neolithic. Finds from Lošinj (Komšo *et al*. 2004), Dugi Otok (Brusić 2004), Brač (Miracle 1995), Hvar (Kaiser & Forenbaher n.d.; Forenbaher 2008a), and Korčula (Čečuk & Radić 2005), indicate that they were inhabited by humans before the Holocene transgression separated them from the mainland. Most, if not all, appear to have been occupied continuously from Neolithic times to the present (Benac 1979–1987). This is not surprising given their proximity to the mainland or to the neighbouring islands. In prehistoric times, each one of those islands potentially supported up to a few thousand inhabitants (Stančič & Gaffney 1996; Forenbaher 2002).

Many of the smaller islands and islets have also yielded archaeological evidence of prehistoric human activity. While most may have been too small to sustain, unaided, a human population, they were usually only a short distance from a larger island or the mainland, which enabled 'commuting' islanders to exploit external resources (Bass 1998). One way or another, Adriatic island communities were essentially self-sufficient. This does not mean, however, they were totally isolated. Interaction networks linking the islands, the islets, and the mainland were easily maintained across short stretches of sea, and the Adriatic archipelago provided a convenient natural setting for experiments in seafaring and navigation (Kaiser & Forenbaher 1999; in press; Forenbaher 2008a; 2009).

One of the most prominent islands, in terms of its physical geography and settlement history, is Hvar, situated roughly in the central area of the archipelago. Sixty-eight km in length, Hvar is a narrow island, only 12 km at its widest point. Topographically, it is dominated by a mountainous rocky spine that runs the length of the island and an extensive low-lying plain in the north-central section, the Starigrad *polje*, which is the largest single tract of arable land to be found on any of the Dalmatian islands, and (for prehistoric and ancient farmers) conveniently close to outcrops of large chert-nodules (Marinčić 1997). The southern coastline is mostly very steep, in places sheer cliffs, while the northern shore is indented by numerous short valleys terminating as coves and bays. At present, there are no rivers on the island, but there are several small freshwater springs, the largest example situated near Jelsa. Marshes that were close to the coast near Jelsa dried up in the mid-19th century.

Present-day Hvar has a typical Mediterranean climate with an annual mean temperature of 16.5° C and an average rainfall of 701 mm per annum. The forest in the littoral belt is mostly Aleppo pine (*Pinus halapensis*) and Holm oak (*Quercus ilex*), while the uplands are forested with Dalmatian pine (*P. nigra* subs. *Dalmatica*) (Trinajstić 1985; 1993). There are no pollen analyses from Hvar to provide information concerning the changing vegetation of the island during the Neolithic and/or thereafter. Recent palynological investigations of deposits from Malo Jezero, a lake on the island of Mljet south of Hvar, along with a recent synthesis of the development of postglacial vegetation in coastal Croatia from the Boreal Period do, however, provide some insights for the reconstruction of potential vegetation on

Hvar, and Dalmatia generally (Jahns & van den Bogaard 1998; Jahns 2002; Šoštarić 2005).

The prehistory of Hvar is both well-known and, at the same time, poorly understood. Prehistoric archaeological research has a lengthy history on the island, extending back at least to the late 1800s (Buccich 1885, 1–3; Gasperini 1887, 5, 11–13; 1888; Rutar 1888). Some of the best-known archaeological sites in Croatia are situated on Hvar, mainly due to the fact that a number of the most comprehensively published Croatian excavations of the 20th century are on the island (Novak 1955, 1959). Prior to mid-century, however, the archaeologists who studied the island's prehistory were inside-the-box practitioners, employing unsystematic recovery techniques of the time and fanciful interpretive schemes. The past half-century since has witnessed major changes to these approaches. Modern archaeological surveys, albeit focused on Hvar's Greco-Roman heritage, began with the work of Branko Kirigin and Petar Popović in the 1970s (Kirigin & Popović 1988). Surveys of the island's prehistoric remains commenced in the 1980s (Bintliff *et al*. n.d.; Gaffney & Stančič 1991) and, in the next decade, even as the Croatian War of Independence raged, culminated with the Adriatic Islands Project which documented the presence of more than 1000 archaeological sites and monuments (Gaffney *et al*. 1997). Excavations employing more up-to-date techniques and chronometric dating methods were also adopted (e.g. Darmanin *et al*. 1997; Forenbaher & Kaiser 2000).

Today, however, our knowledge of Hvar's prehistoric period results mainly from the investigation of 3 of the island's caves (Grapčeva (Novak 1955; Forenbaher & Kaiser 2008a), Markova (Novak 1959) and Badanj-Veli Pokrivenik (Kaiser *et al*. 1992; Kaiser & Forenbaher n.d.)) and the Adriatic Islands Project surveys (Gaffney *et al*. 1997; 2000). In the first instance, excavations demonstrated that there was in fact a Late Upper Palaeolithic presence on Hvar (backed bladelets and microgravettes dated to the 16th millennium BC from Badanj-Veli Pokrivenik (Forenbaher 2002; Kaiser & Forenbaher n.d.)). Excavations at known sites and fieldwalking demonstrated the presence of Early Neolithic settlers and the developing elaboration of Neolithic material culture, but little more. Not a single open-air settlement of the period has been located and investigated, at least not professionally. C. Diedrich, a paleontologist, reports what appears to have been a series of possibly illegal – certainly unauthorised – summertime surface collections of pottery, lithics, shell, and bone he carried out from 2004 to 2006 (?) at a midden site on the beach west of Maslenica Bay on the north coast of Hvar (Diedrich 2011). Later prehistoric periods are known primarily from the presence of burial cairns, hillforts, and finds associated with them.

On Hvar, one site is pre-eminent, despite its geographic obscurity. Grapčeva Cave, situated on a hill on the southern coast of Hvar, presents at first no more than an inconspicuous opening in the karst. This entrance is close to the top of a steeply sloping gully that descends approximately 230 m to a fresh water spring and the small cove of Virak; a sweeping view from the cave takes in the neighbouring islands of Šćedro, Korčula, Vis, Sušac, and a wide expanse of the Adriatic Sea beyond (Fig. 9.2).

The mouth of Grapčeva Cave is almost entirely blocked by vast limestone slabs that once formed the vault of a much larger cavern, now partly eroded and buried by roof-falls that took place in the distant past. While a large part of this cavern collapsed in the remote geological past, the slabs presently blocking the entrance may have shifted to a degree over the last few millennia. Only an extensive excavation of the rock-fall would clarify their likely position during the Neolithic.

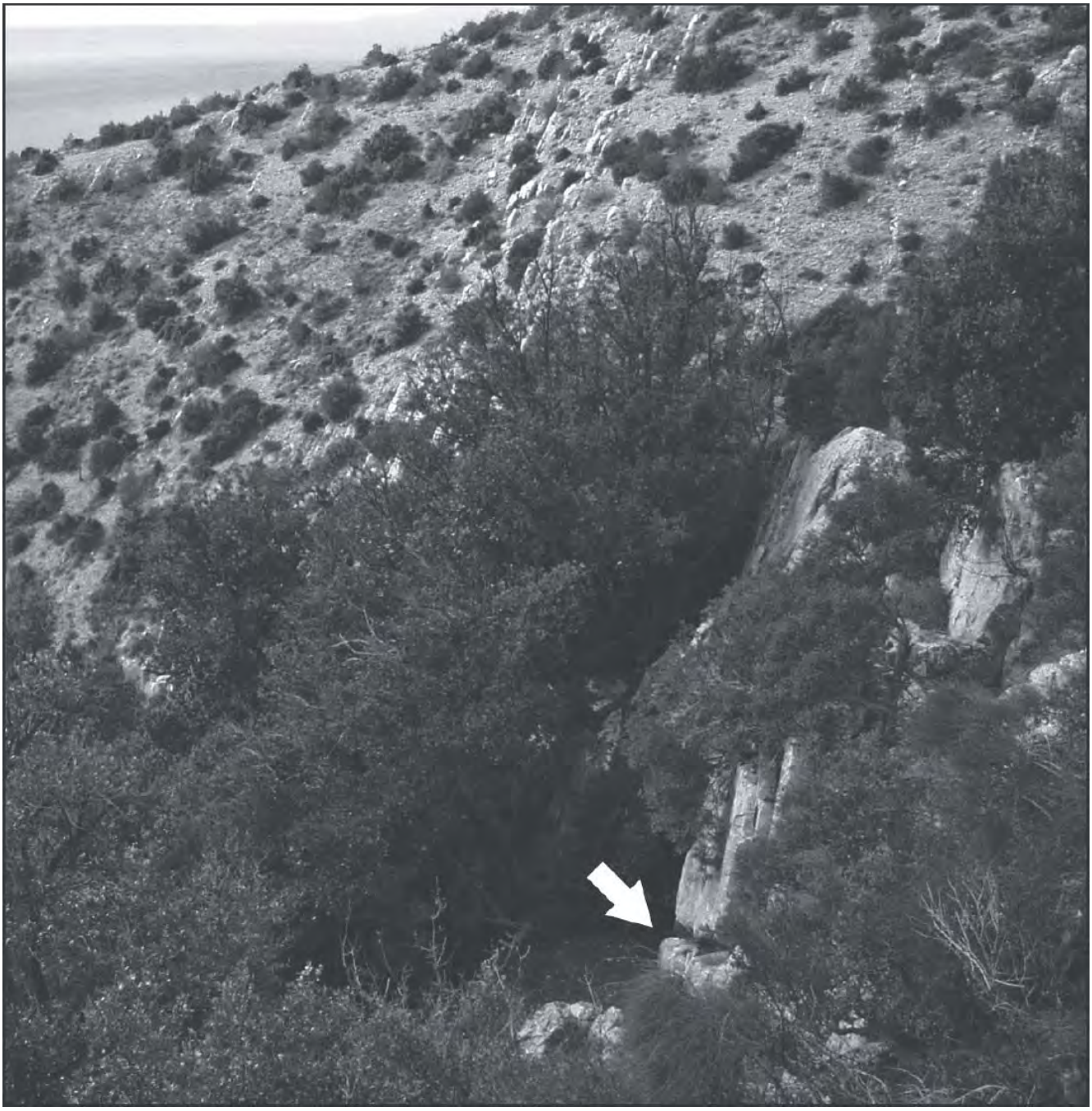

Figure 9.2 An arrow marks the entrance to Grapčeva Cave, hidden on the southern slope of the island of Hvar. The Adriatic Sea is in the background

Entering the cave today, a person reaches the cave interior by crawling through the western-most of several small, narrow passages that are present between the limestone slabs. Beyond the passage, the cave comprises a single chamber some 25 m in width, 22 m in length and up to 5 m in height. It is divided by stalagmitic pillars and curtains into a number of unequal, labyrinthine spaces (Figs 9.3 & 9.4). A passage, completely encased in stalagmitic crust, climbs steeply from the northern end of the chamber, terminating in a dead end after approximately 10 m.

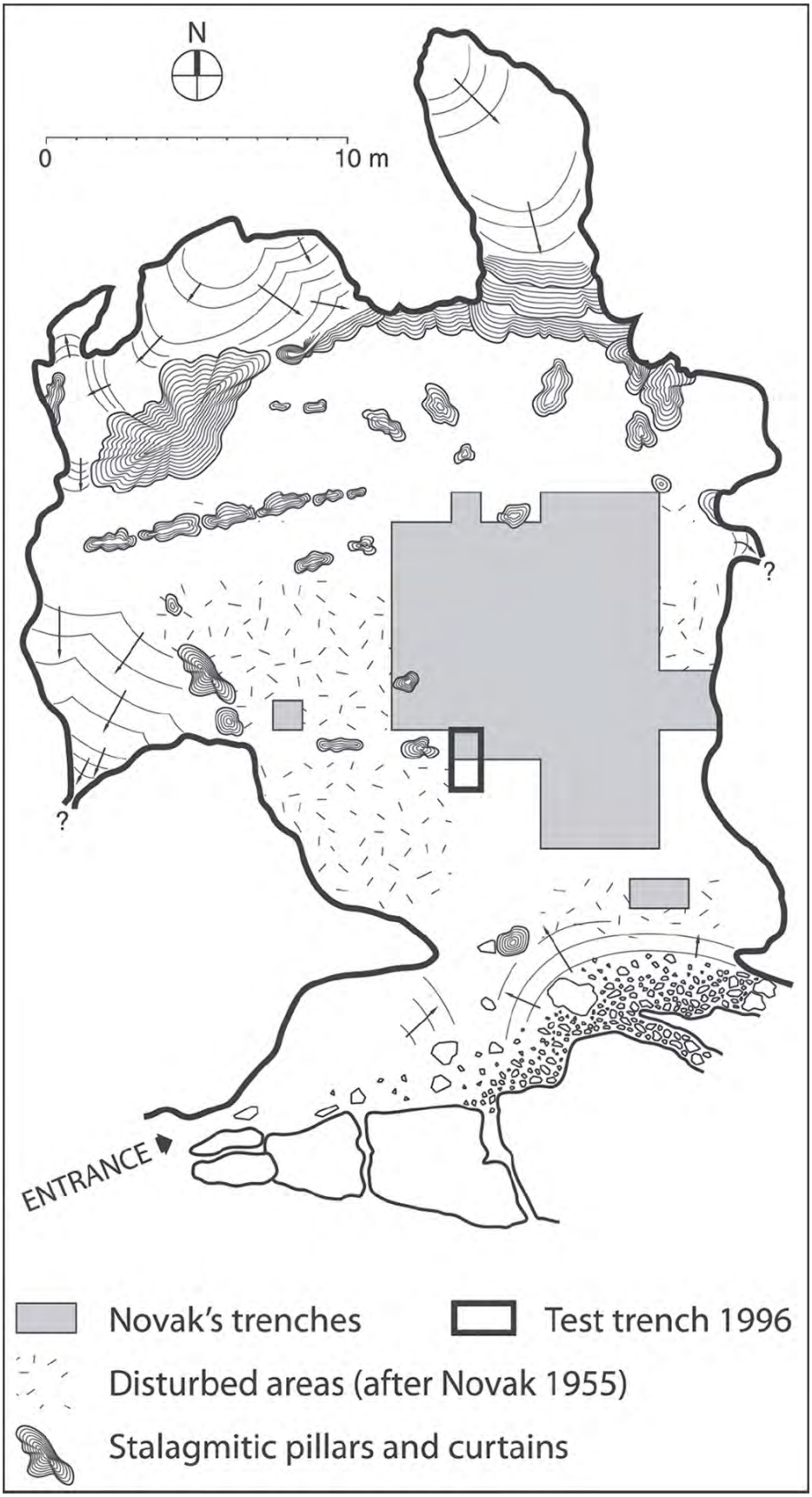

Figure 9.3 Plan of Grapčeva Cave showing excavated areas

Figure 9.4 Stalagmitic pillars and curtains in the main chamber of Grapčeva Cave

The chamber itself acts as a sediment trap and presently incorporates a thick accumulation of deposits containing archaeological material. Its total surface area is approximately 390 m^2, of which roughly 70 m^2 are stalagmites, massive stalagmitic crusts, or bedrock. Early explorers reported that, prior to their excavations, the entire surface had been covered by carbonate crusts approximately 10 cm in thickness.

Research history

Grapčeva Cave has attracted the attention of archaeologists for many years. The most extensive excavations undertaken at the site to date were those carried out by the renowned Croatian archaeologist Grga Novak who, between 1947 and 1950, excavated approximately 100 m^2, or one-third, of the cave's floor surface, completing earlier work interrupted by the Second World War. Novak excavated down 'to bedrock' which he encountered at depths ranging between 1.0 m and 3.5 m. The distinctive Late Neolithic pottery that Novak discovered at the cave inspired him to adopt the term 'Hvar Culture', a designation that was subsequently applied to similar Late Neolithic assemblages throughout the eastern Adriatic. Novak was impressed by the richness of the pottery finds and by the presence of human bones. Following his excavations, Novak published the results in a comprehensive, lavishly illustrated monograph (Novak 1955) which established the 'Hvar Culture' as one of the most important cultural entities of the eastern Adriatic Neolithic (Ehrich 1965, 424; Batović 1979; Trump

1980, 133; Wilkes 1992, 34). Novak proposed that Grapčeva Cave probably functioned as a cult site or sanctuary during the Neolithic, and thus was not used for habitation purposes, at least during this period.

All of Grapčeva's excavators – i.e. Novak and his predecessors – recovered and reported their finds in an unsystematic manner typical of the time in which they worked. Their interpretations of the site were based primarily on loosely attributed stylistic traits observed on the pottery. Other classes of evidence were virtually ignored and, of course, there were no independent chronometric controls available at the time. For such an important site, so extensively excavated, relatively little was known about Grapčeva.

In 1996 a new archaeological intervention at Grapčeva commenced, the chief aim of which was to fill gaps in knowledge about the site using modern excavation techniques (Darmanin *et al*. 1997; Forenbaher & Kaiser 2000; 2008a; Borojević *et al*. 2008; Forenbaher *et al*. 2010). Given that previous excavations at the cave would have removed significant quantities of intact archaeological features and deposits, it was realised from the outset that the remaining archaeological resource was likely to be relatively minimal. Thus, the strategy adopted was to excavate as small a test trench as was possible at a carefully selected location. The anticipated depth of deposits (approximately 3 m) dictated the minimal surface dimensions of the test trench (1 × 2 m). Novak had published sufficient information to afford a reconstruction of the horizontal extent of his excavation (Novak 1955, 17–30). It was decided to locate the new trench in Novak's Squares A'6 and A'7, straddling one of the edges of his excavation, at a point where the underlying strata were relatively deep. As hoped, in Square A'7 evidence was found of Novak's backfilled trench, while in Square A'6, undisturbed deposits were encountered. With such a limited intervention, the results could be said to reflect the situation at only a single unrepresentative point of an extensive site. Careful comparison with published information from earlier excavations suggests, however, that what this test-trench revealed should be considered archaeologically representative of the remainder of the cave.

Stratigraphy

The northern portion of the 1996 trench (Square A'7) had been excavated by Novak only to a depth of about 0.5 m and subsequently backfilled. At that depth, he encountered the tip of a large *in situ* stalagmite. Novak reduced the width of his excavation accordingly and continued to excavate deeper in a 25 cm wide strip situated along the northern edge of Square A'7. As a result of this, the majority of the deposits encountered in the present trench were found intact, except for a few minor disturbances, presumably caused by burrowing animals (Fig. 9.5).

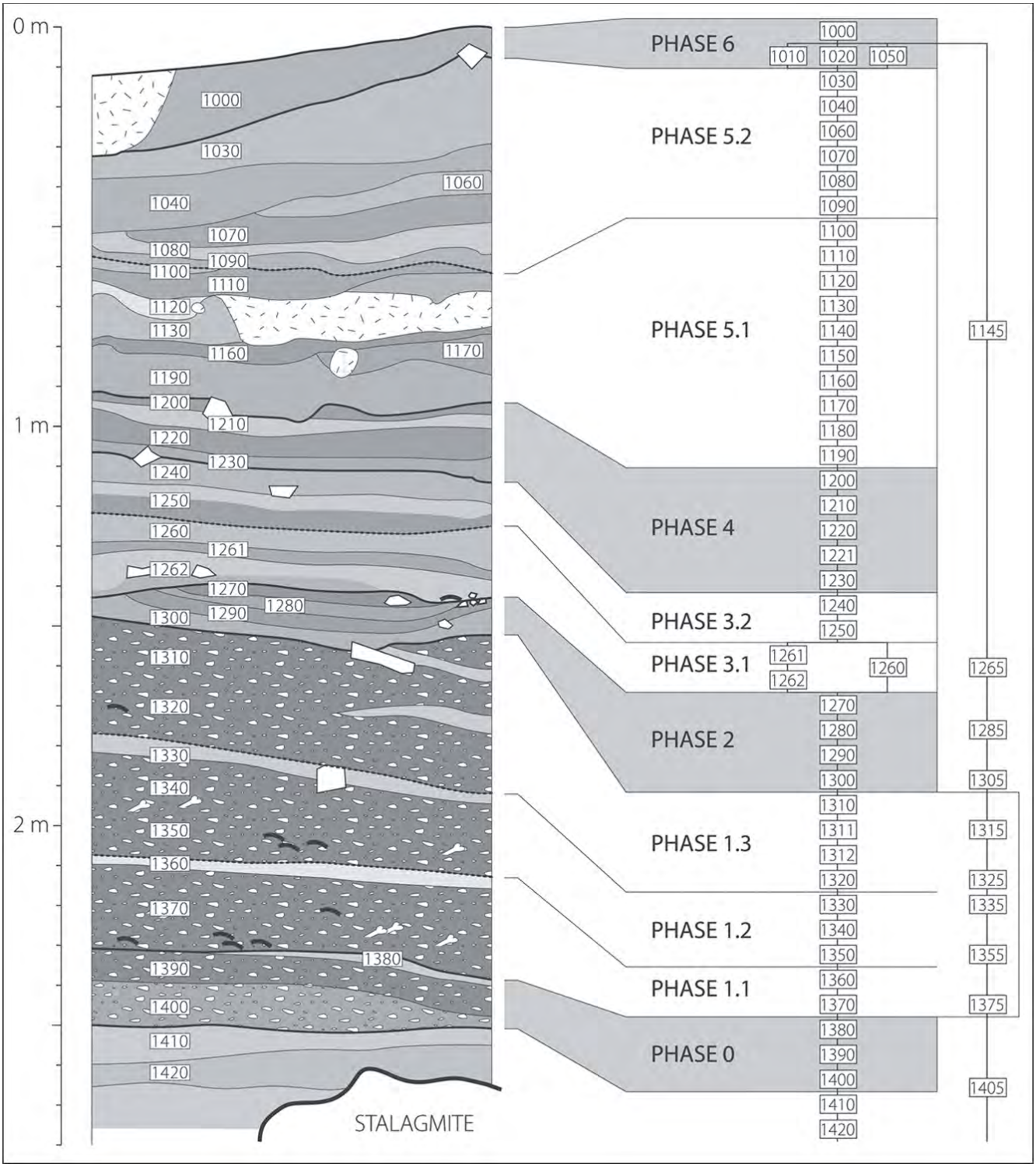

Figure 9.5 Section, stratigraphic diagram, and phasing of the test trench excavated in 1996

At a depth of approximately 2.6 m below the present-day surface, a massive stalagmitic crust appears to have been precipitated directly over the bedrock; it defined the bottom of the present excavation. Overlying the crust, stratigraphic units 1420 and 1410 comprised very compact silt permeated by calcium carbonate, having a combined thickness of 15 cm. These deposits did not, however, yield any evidence of human activity.

Directly above these deposits lay a series of stratigraphic units (from SU 1400 to SU 1310; total thickness 0.9 m) that consisted primarily of angular lumps of limestone embedded in very loose

humus-like black deposit. These units contained abundant artefacts, animal bones, and wood charcoal. Occasional thin lenses of yellow clay divided this sequence into several horizontal segments. Some of these lenses had clearly defined circular areas burnt to a reddish colour, which were interpreted as fireplaces (Fig. 9.6). The abundant charcoal was considered to be the result of *in situ* combustion. The angular lumps of limestone, on the other hand, were thought to come from the cave's immediate environs and deliberately brought into the cave. There seemed little doubt that this dark, loose layer corresponded to Novak's 'Great Layer' (or Layer I) (Novak 1955, 32–33, figs 8, 18 & 30).

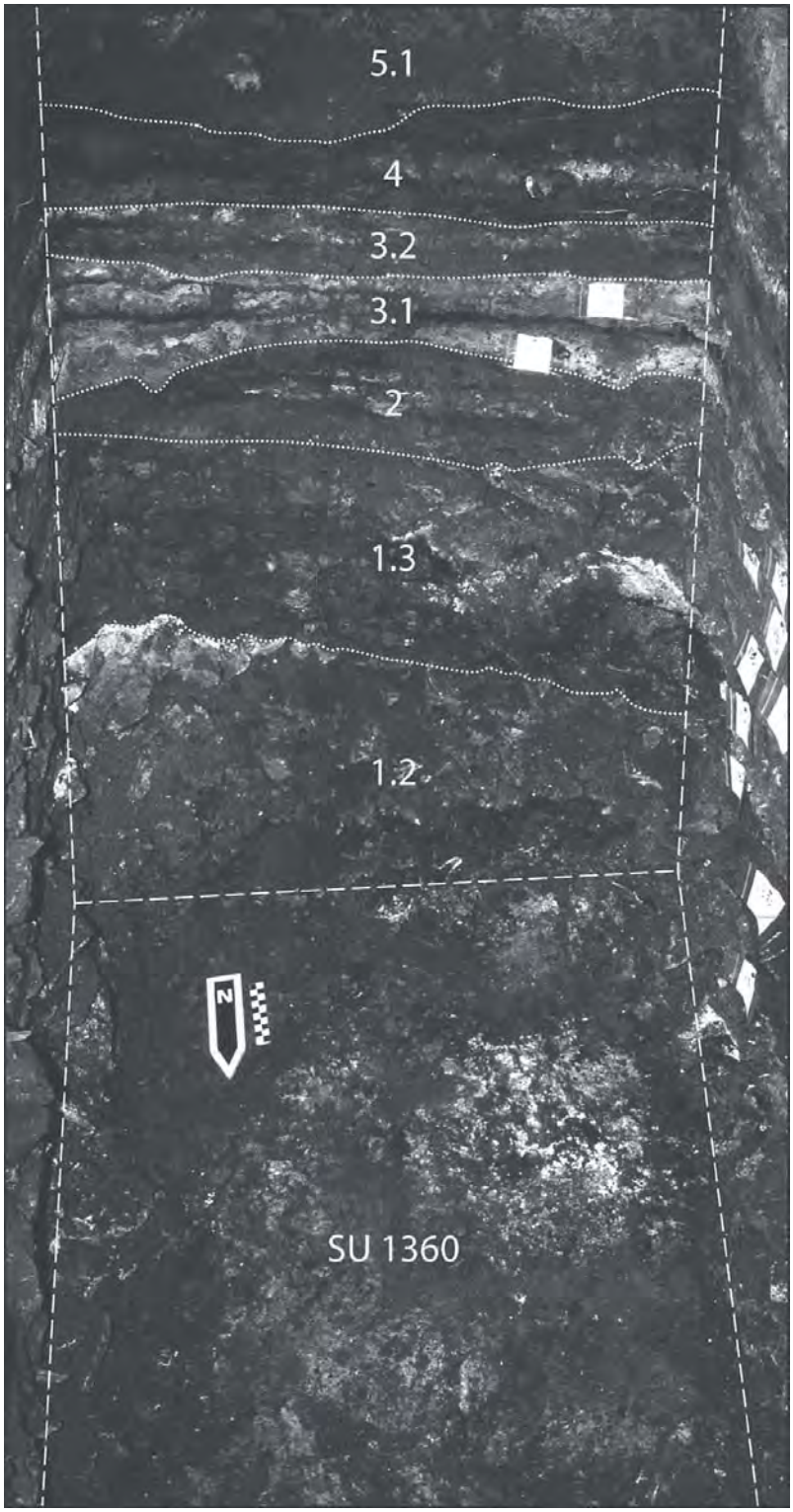

Figure 9.6 A circular hearth marking the top of Sub-phase 1.1. Visible in the section above SU 1360 is the loose accumulation of black humus and angular rocks: sub-phases 1.2 & 1.3, separated by another hearth, overlaid by the soot-and-ash lenses (phases 2, 3 & 4)

Above this, the character of the sediment changed radically. It was more compact and lighter in colour; there were numerous, thin, inter-fingered lenses of silt-sized sediment, carbon, and ash (from SU 1300 to SU 1060; total thickness 1.1 m), containing relatively few archaeological finds and only a very few natural stones. Such deposits, suggesting multiple episodes of low-intensity burning, are common in caves throughout the region (as for example at the nearby caves of Markova (Novak 1959), Badanj-Veli Pokrivenik (Kaiser *et al*. 1992; Kaiser & Forenbaher n.d.) and Nakovana (Forenbaher & Kaiser 2003; Kaiser & Forenbaher 2012)). These deposits probably were formed by the episodic burning of layers containing herbivore droppings (Boschian & Montagnari Kokelj 2000, 340–343). This sequence of deposits roughly corresponds to Novak's Layers III, IV and V (Novak 1955, 31–32, figs 8, 18 & 30); a closer correlation with his stratigraphic scheme is not possible. Nothing, however, was encountered resembling Novak's 'sterile' Layer II, and there are reasons to doubt its existence.

Stratigraphic units 1040 and 1030 (with a combined thickness of 30 cm) near the top of the sequence were characterized by loose brown-humus, roughly corresponding to Novak's Layer VI (Novak 1955, 31). The uppermost units 1010 and 1000 (with a combined thickness of 15 cm) comprised the backfill from earlier excavations.

Phases and dates

As part of the present investigations, the cave's stratigraphic sequence was divided into seven main phases and several sub-phases, based on major breaks in stratigraphy and formal traits observed in the pottery (Fig. 9.5).

Phase 0

The deepest contexts were designated Phase 0. Pottery finds in this phase were rare but included an Impressed Ware sherd (Müller 1994), a few sherds decorated by Danilo style incision (Batović 1979, 541–544), and a polychrome-painted sherd of buff-yellow, fine-grained, burnished, evenly fired fineware of the type known as *figulina* (Spataro 2002, 13). These finds were interpreted as the results of sporadic visits that took place in the Early and Middle Neolithic (Fig. 9.7A). Of the two radiocarbon dates available for Phase 0, one corresponds to the early 6th millennium BC and the other to the early 5th millennium BC (Table 9.1).

Phase 1

Phase 1 was represented by a thick layer of loose, dark humus incorporating fist-sized rocks. The layer contained exceptionally large quantities of potsherds, faunal remains, and charcoal, as well as occasional thin lenses of yellow clay. The three major clay-lenses are presently employed as the basis of three sub-phases for Phase 1 (i.e. 1.1, 1.2 & 1.3). Late Neolithic Hvar bowls (Batović 1979, 599–601) dominate the assemblage. Five radiocarbon determinations place Phase 1 in the 5th millennium BC, approximately between 4800 and 4300 BC (Table 9.1). The dates do not match the stratigraphic sequence precisely, and one example, 6130±80 BP (Beta 103485) in uncalibrated

radiocarbon years, is almost certainly too early. These inconsistencies may result from the migration of charcoal within the loosely deposited sediment and/or 'old wood effect.' Sub-phase 1.1 probably belongs to the first half of the 5th millennium BC, while sub-phases 1.2 & 1.3 belong to its second half.

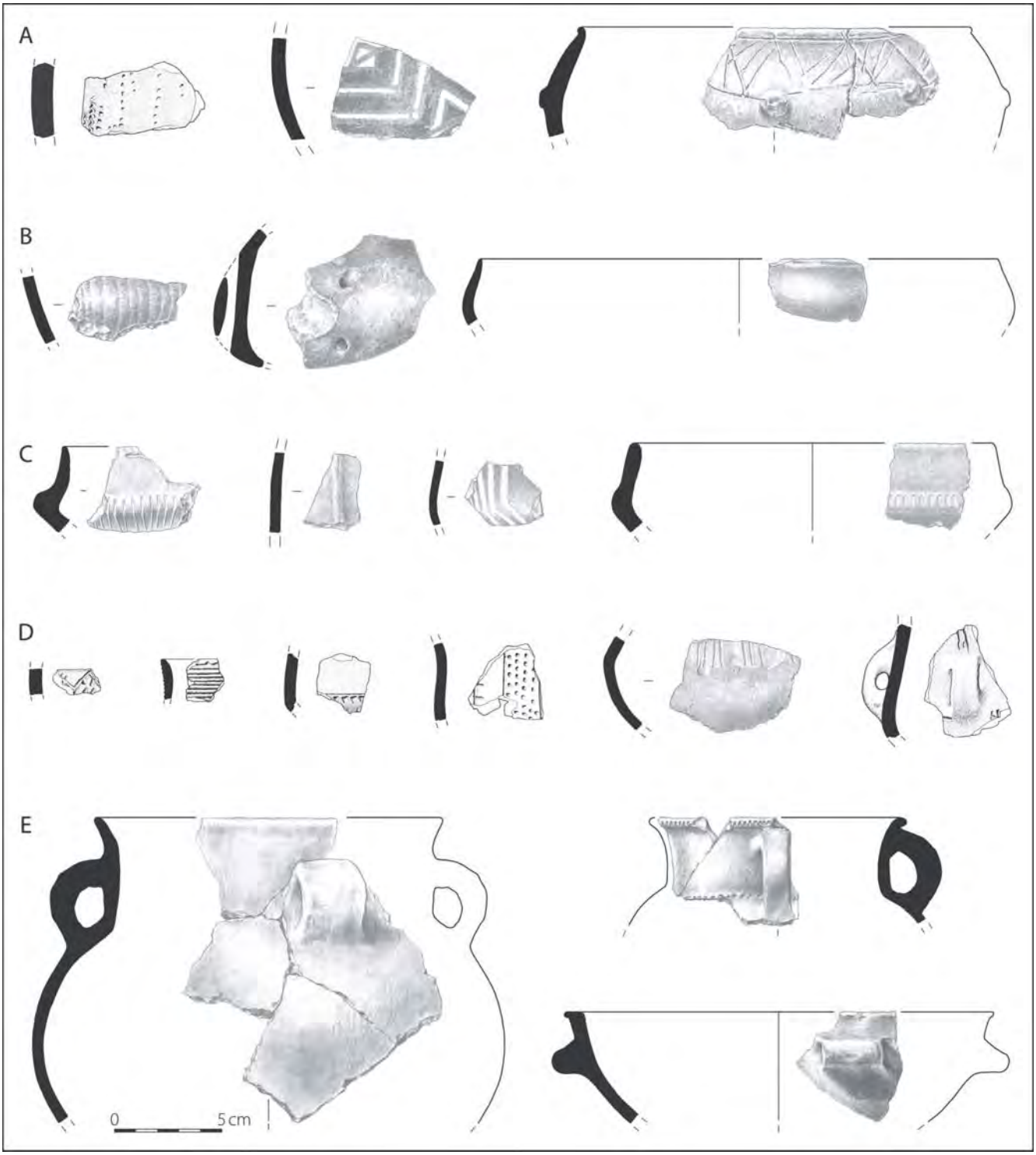

Figure 9.7 A selection of characteristic potsherds from Grapčeva Cave: A) Phase 0; B) Phase 2; C) Phase 3; D) Phase 4; E) Phase 5

Table 9.1 Radiocarbon dates from Grapčeva Cave

Lab no.	*Age BP*	*Age cal BC (1 σ)*	*SU*	*Phase*	*Associated pottery*
Beta 103474	3410±110	1879–1529	1040	5.2	Middle Bronze Age
Beta 103475	3480±50	1881–1695	1080	5.2	Middle Bronze Age
Beta 103476	3970±50	2565–2459	1130	5.1	Early Bronze Age
Beta 103477	3880±120	2551–2144	1200	4	Cetina
Beta 103478	4190±50	2882–2678	1220	4	Cetina
Beta 103479	4510±50	3352–3097	1250	3.2	Nakovana
Beta 103480	4700±100	3637–3363	1262	3.1	Nakovana
Beta 106625	5210±40	4041–3972	1280	2	Late Hvar
Beta 103481	5650±100	4584–4359	1290	2	Late Hvar
Beta 103482	5460±60	4350–4249	1310	1.3	Classic Hvar, modest decoration
Beta 103483	5720±70	4686–4460	1320	1.3	Classic Hvar, modest decoration
Beta 103484	5420±70	4340–4167	1330	1.2	Classic Hvar, standard decoration
Beta 103485	6130±80	5226–4861	1350	1.2	Classic Hvar, standard decoration
Beta 103486	5900±60	4838–4712	1370	1.1	Classic Hvar, outlined decoration
Beta 103487	6000±80	4960–4780	1390	0	Polychrome *figulina*
Beta 103488	7030±60	5987–5811	1400	0	Impressed Ware

SU = Stratigraphic unit. All samples are wood charcoal

Phase 2

Phase 2 was represented by a series of ash lenses alternating with deposits of soil. The relatively small pottery assemblage is best described as plain, generic Hvar style (Fig. 9.7B). This phase has the highest relative abundance of burnished pottery, over half of which was fired in a reducing atmosphere. A conspicuous and common attribute of the pottery is channelled decoration, not encountered earlier. Two radiocarbon determinations date this phase to near the end of the 5th millennium BC (Table 9.1).

Phase 3

Phase 3 was represented by sediments similar to those of the previous phase (i.e. Phase 2) and has been assigned 2 sub-phases (i.e. 3.1 & 3.2). A possible stratigraphic discontinuity separates Sub-phase 3.1 from Sub-phase 3.2. Traditional Late Neolithic vessel shapes and decorative elements, which are still relatively common in the earlier sub-phase (3.1), virtually disappear by the later sub-phase (3.2). They are replaced by a variety of new vessel shapes and decorative elements (Fig. 9.7C) that are considered typical of the Early Copper Age 'Nakovana' style (Dimitrijević 1979). Two radiocarbon determinations date Sub-phase 3.1 to the mid-4th millennium BC and Sub-phase 3.2 to the late 4th millennium BC (Table 9.1).

Phase 4

Phase 4 is represented by types of deposit similar to the previous 2 phases (i.e. phases 2 & 3). A distinguishing feature is its small pottery assemblage with incised-and-impressed or coil-impressed geometric designs (Fig. 9.7D). These attributes are characteristic of the Late Copper Age 'Cetina' style (Marović & Čović 1983). Two radiocarbon determinations suggest that Phase 4 may have lasted for the greater part of the 3rd millennium BC (Table 9.1).

Phase 5

Phase 5 is represented by a 1-m-thick sequence of clearly stratified deposits and has been assigned two sub-phases (i.e. 5.1 & 5.2). A possible discontinuity separates Sub-phase 5.1 from Sub-phase 5.2. Almost all of the pottery is plain (Fig. 9.7E). The quantity of jars found is approximately double that for bowls and vessels frequently incorporate handles, the latter often quite elaborate. Essentially, Sub-phase 5.1 is attributed to the Early Bronze Age, and Sub-phase 5.2 to the Middle Bronze Age. According to radiocarbon determinations, Sub-phase 5.1 dates to the late 3rd millennium BC and Sub-phase 5.2 to the first half of the 2nd millennium BC (Table 9.1).

Phase 6

Phase 6 is represented by backfill from Novak's 1950s main trench, backfill from a smaller pit, spoil from earlier excavations re-deposited on top of the original cave-floor, and disturbed soil at the present cave-floor level (Fig. 9.5). These deposits contained numerous plain, non-diagnostic potsherds, as well as animal bones and mollusc shells, in essence reflecting the somewhat haphazard and unsystematic nature of the early excavators' recovery practices.

Patterns of deposition

The radiocarbon determinations from Grapčeva (Table 9.1) suggest that the 0.9 m thick deposit of dark, loose, and rocky sediment from SU 1390 to SU 1310 took some 500 years to accumulate. This implies an average rate of deposition on the order of approximately 18 cm per century. By contrast, the overlying 1.1 m of lighter and more compact, ashy sediments from SU 1300 to SU 1040 appears to have been deposited over a period of some 2500 years, i.e. at an average rate of c. 4.4 cm per century. This fourfold decrease in the average accumulation rate coincides with the radical change in sediment characteristics observed for the end of Phase 1.

Grapčeva Phase 1 would appear to differ from all other phases in the quantity and variety of finds that suggest a more intensive and qualitatively different use of the site. Pottery and animal bones are more frequent in Phase 1 than in any other phase (Fig. 9.8), and the same phase also has the highest density of wood charcoal and plant macro-remains (Borojević *et al*. 2008, figs 7 & 8). This contrast is sharper when compared with average rates of discard, which decrease tenfold from over 4 kg to less than 0.3 kg per m^2 per century for pottery and from approximately 1.5 kg to less than 0.12 kg per m^2 per century for animal bones.

When compared to other phases, the potsherds from Phase 1 are larger on average and are decorated more frequently (Fig. 9.8). The larger of the sherds may be the result of different depositional environments and site-formation processes, but may also result from deliberate breakage, after which they may have been left relatively undisturbed. It has been possible to reconstruct large portions of several vessels by conjoining sherds, but no vessel could be reassembled in its entirety. It should be acknowledged, however, that a minor excavation trench rarely yields extensive pot-conjoins, even in cases where vessels were smashed and left where this took place.

Decorated sherds are not only more frequent in this layer than in the others, but they are also more common at Grapčeva than at any other eastern Adriatic Late Neolithic cave site with comparable data. Fifteen per cent of Grapčeva's sub-phases 1.1 and 1.2 pottery is decorated, as compared to 6% at Pupicina (Forenbaher & Kaiser 2006a), or 4% at Vela Pec (Forenbaher *et al*. 2008, 15, table 2).

Pots and stones, plants and bones: the Late Neolithic at Grapčeva

Pottery

Phase 1 yielded over 3200 potsherds, 445 of which we considered diagnostic in view of their shape, decoration, or both (Forenbaher & Kaiser 2008a). Vessels were crafted using locally available calcareous clays, heavily tempered with crushed marble, calcite and/or limestone. The vessels were probably fired in bonfires or fire-pits, and many were burnished before undergoing firing. The majority were smudged during firing; others were fired in a reducing atmosphere. Surfaces are often dark, ranging from black to reddish-brown, although lighter colours are not uncommon. Note that black-burnished pottery is generally considered a hallmark of the Hvar style.

Wide shallow bowls dominate the pottery assemblage. The 4 major bowl-types differ primarily in the degree of restriction of their mouths (Fig. 9.9). The slightly restricted (closed) bowl is the most common Late Neolithic vessel shape, making up approximately two-thirds of all reconstructed vessels. The majority of the bowls are of medium size (rim diameter ≈ 20 cm), although a wide range of sizes is represented. Jars are much less common, and other vessel shapes are very rare.

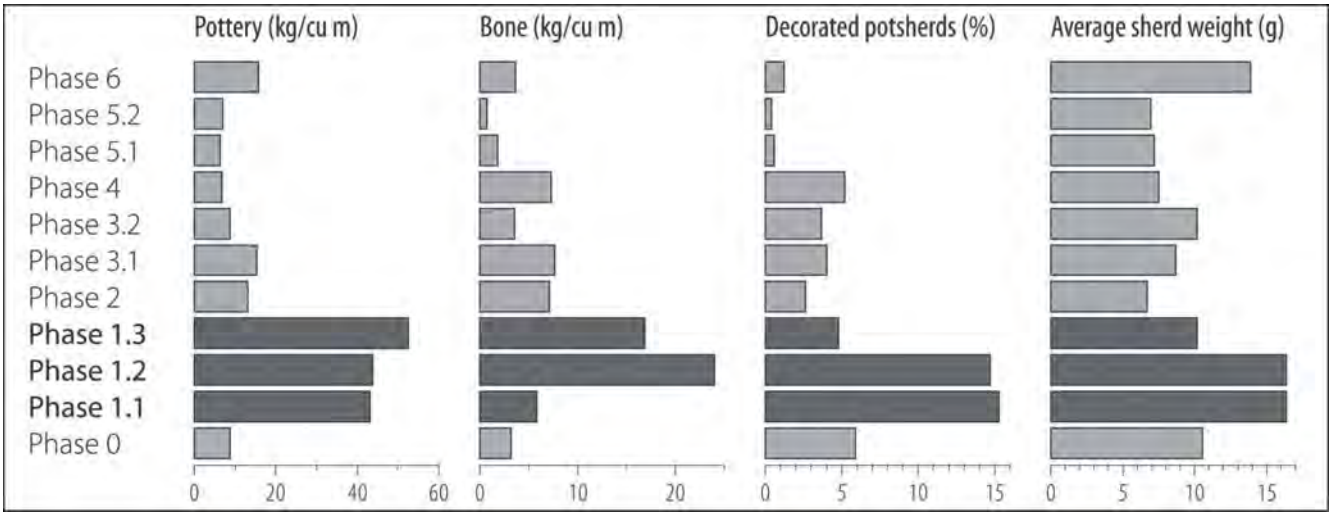

Figure 9.8 Relative frequency by phase and sub-phase of pottery, animal bone and decorated potsherds, as well as the average sherd size by phase, in Grapčeva Cave test trench deposits

Decorations take the form of abstract geometric motifs: rectilinear, curvilinear, spiral, and complex geometric arrangements. They are usually located at the rim and immediately below it, often forming a zone that flows around the vessel between the rim and the shoulder (**Fig. 9.10**). The frequency of decoration varies. There is a marked decrease in decorated sherds, from over 20% in the earliest contexts of Sub-phase 1.1 to less than 3% by the end of Sub-phase 1.3.

The two major decorative techniques, often used in combination, are incision and painting. Paint, which was always applied after firing, did not adhere to the surface very well, and many sherds exhibit only the ghost-marks of painted designs. Several kinds of pigments were used, most based on either mercury (cinnabar, or mercuric sulfide, HgS) or iron (red ochre, Fe_2O_3) (Karšulin 1955, 293; Twilley, pers. comm.). While red ochre occurs commonly throughout Dalmatia, cinnabar is not as readily available and is likely to have been procured through long-distance exchange networks. There are several potential cinnabar sources in the mountainous hinterland of the eastern Adriatic. The well-known ore deposits at Idrija in Slovenia (Drovenik *et al*. 1990) and a minor one at Tršće in Croatia

(Frančišković-Bilinski *et al*. 2005) are situated a considerable distance to the northwest. The extensive deposits in the ore-rich mountains of central Bosnia, in the areas of Dusina and Čemernica (Jurković 1996; Jurković *et al*. 1999), are likewise situated some distance inland. Interestingly, however, these Bosnian cinnabar sources are located near Lisicici, a major Late Neolithic settlement attributed to the 'Hvar Culture' (Benac 1958). In contrast to the majority of 'Hvar' sites, which are generally coastal in terms of their location, Lisicici is situated some distance inland.

Finally, several sources have been reported from Montenegro (Ministarstvo za ekonomski razvoj Crne Gore 2008, 23). One of them, Sutomore, is situated on the Adriatic coast. Some of these ores have been mined since Late Medieval times, but whether any were exploited in prehistory remains unknown.

Since the physical-chemical analysis of Grapčeva pottery undertaken was limited to only a small sample taken from the entire ceramic assemblage (n = 32), painted decoration was classified as 'red', 'faded red', or 'white', the first two of which correspond roughly to cinnabar-based and ochre-based pigments respectively; 'white' appears to be a relic of an as yet unidentified pigment. A common simple and characteristic decoration comprises a red-painted band along the lip of the rim, its lower edge often demarcated by an incised line. Notably, the 'white' paint was never used for these 'lip-bands'. A characteristic feature of Sub-phase 1.1 is 'outlined decoration'. Here, a geometric motif was first incised, then the area outside the motif burnished, while the interior of the motif was painted in a bright red (Fig. 9.10A). In Sub-phase 1.2, all traditionally recognized Hvar-style decorative traits continue except 'outlined decoration' (Fig. 9.10B). Rare 'white' painted sherds first appear in its topmost stratigraphic unit and continue throughout the following sub-phase. The pottery from Sub-phase 1.3 is ornamented less frequently, and painted decoration becomes more common than incision (Fig. 9.10C).

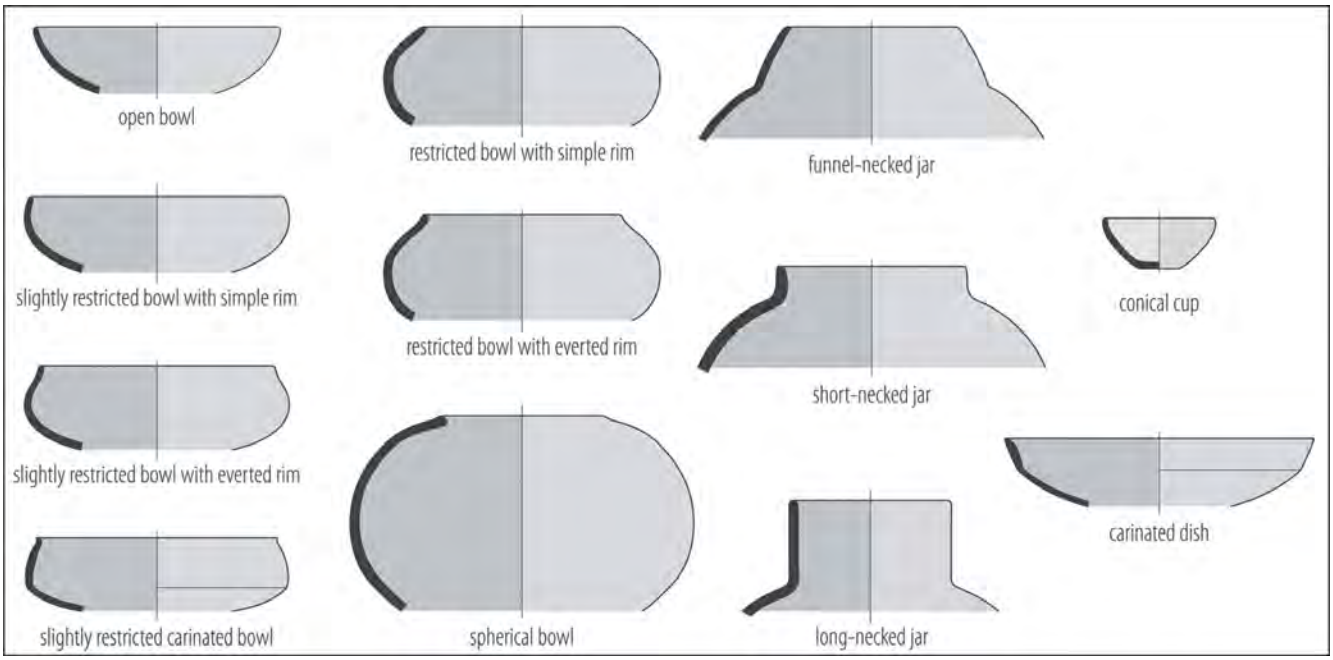

Figure 9.9 Shapes of vessels from Phase 1 of Grapčeva Cave

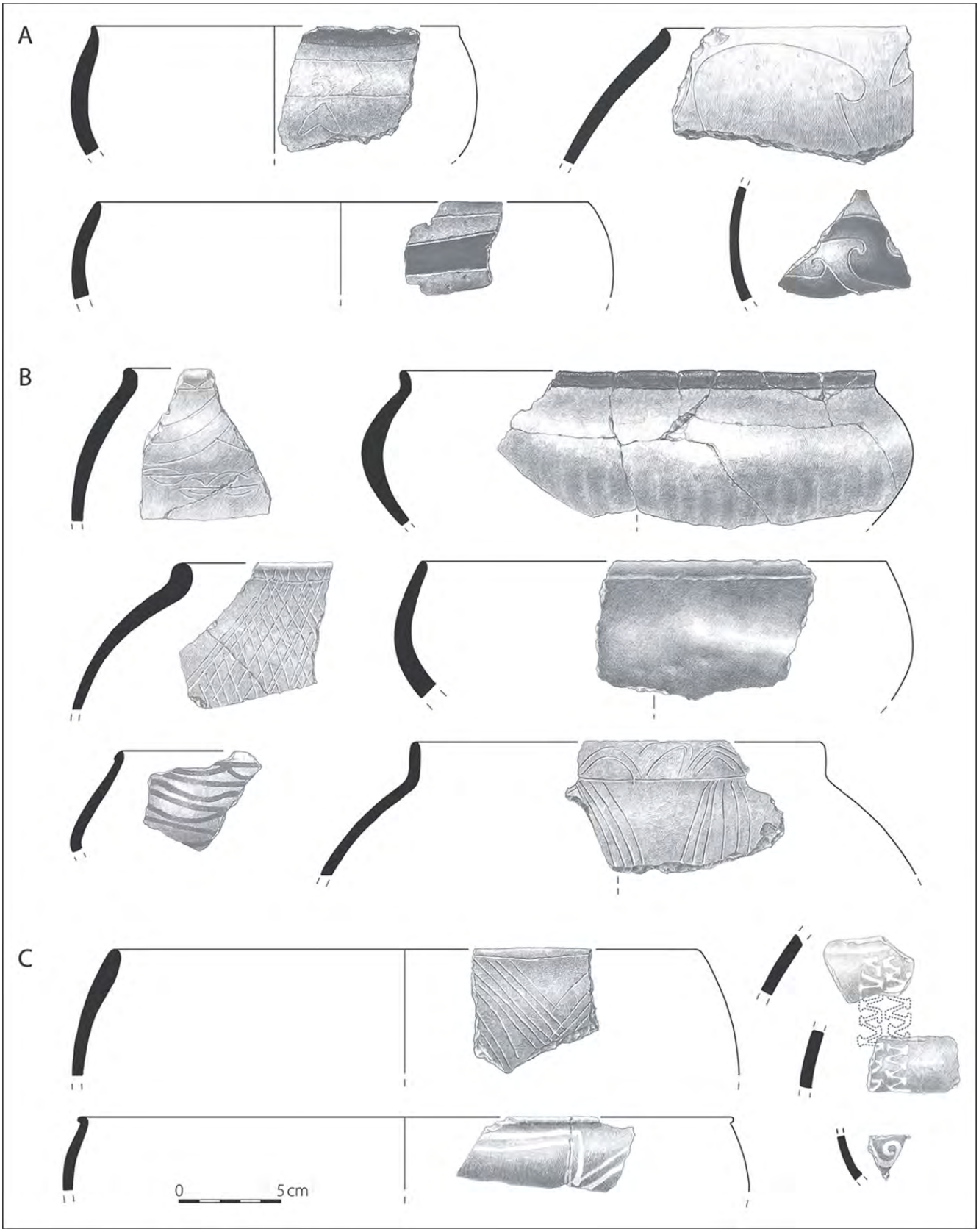

Figure 9.10 A selection of characteristic potsherds from Phase 1 of Grapčeva Cave: A) Sub-phase 1.1; B) Sub-phase 1.2; C) Sub-phase 1.3

While Hvar style pottery is well known from many sites, only Vela Cave (Čečuk & Radić 2005) offers material comparable in terms of its relatively fine temporal resolution. Grapčeva's sub-phases 1.1

& 1.2 roughly correspond to Vela's Phase 4/2, while Grapčeva's Sub-phase 1.3 and Phase 2 equate to Vela's phases 4/3 & 4/4.

Macromammalian fauna

More than two-thirds of the 1714 bone samples from Grapčeva identified to genus or species were recovered from Phase 1 and include those of sheep, goat, cattle, deer, pig, marten, dog, hare, and humans. Although the range of taxa is similar throughout the sequence, there are notable differences between the Neolithic and post-Neolithic levels. Faunal remains provide evidence for the specialized use of the cave during Phase 1 (Frame 2008).

The uniformity of the species distribution over the course of 25 centuries is remarkable (Fig. 9.11). In every phase, the bones of sheep and goat dominate, making up 83–85% of the assemblage. Over time, little changes – except that there are more goats and fewer sheep in post-Neolithic times. Hare and humans are the only species that are restricted in their distribution, both occurring primarily in Phase 1 or just above it. There is also some temporal variation in the frequency of pig, which is more common in later levels. Cattle bones are found throughout the sequence, but approximately half of the identified specimens come from just two Phase 1 contexts (SU 1310 & SU 1340). The pattern for deer is almost identical to that of cattle.

The faunal assemblage recovered comprises mainly post-consumption remains. It appears that initial butchery was carried out somewhere other than in the cave and there was little processing of the bones after the meat had been consumed. Cattle, deer, and hare are represented primarily in the form of limb bones. The distribution of elements and the cut-mark patterns suggest that large joints of meat were cooked and consumed at the site. Hares were apparently skinned elsewhere; or at least no evidence of their pelts was left in the cave. Sheep and goat skeletons are more complete, but their meat-bearing bones are overrepresented, while small foot-bones and metapodials are underrepresented. Since the latter are preferentially used in manufacturing bone tools, their absence suggests that initial butchery and secondary use of the butchery waste did not take place at the site.

There is evidence for a preferential selection of left goat-limbs and right sheep-limbs. The evenly balanced number of those elements strongly suggests that these categories (left/right, and sheep/goat) had a cultural significance. The high rate of juvenile culling, with a possible emphasis on young female sheep, may point to another culturally meaningful selection. None of this can be rationally explained by standard herd-management strategies or taphonomic pressures. Together with the taphonomic data, this sets Phase 1 deposits apart from those of later phases in that they reflect specialized activities rather than simple post-consumption discard (Frame 2008).

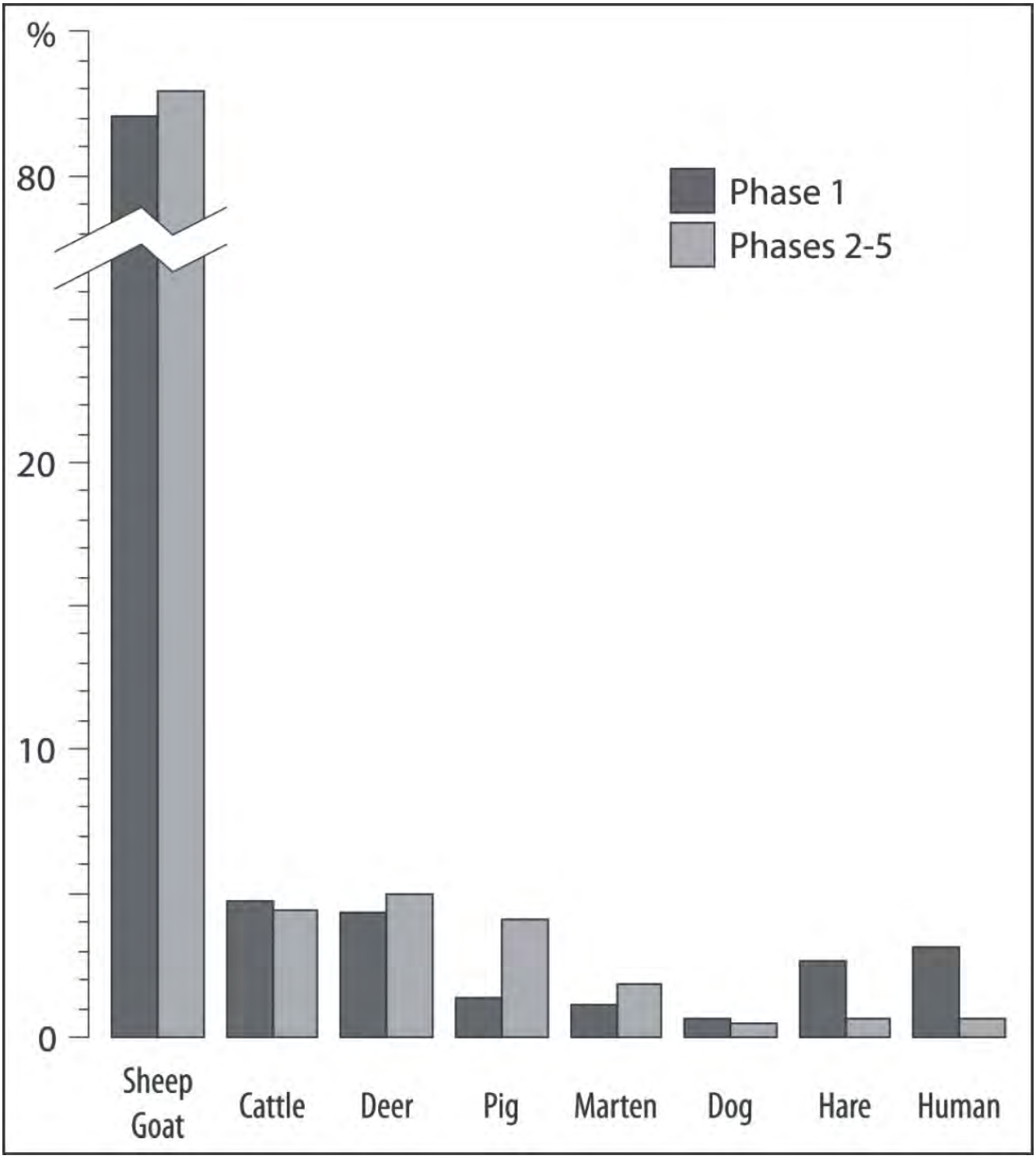

Figure 9.11 Relative frequency of taxa in Phase 1 and all later phases combined, counted by diagnostic zone (Watson 1979)

Human remains

Throughout the Mediterranean region, disarticulated human bones are often found in Neolithic middens, sometimes in addition to complete burials or as the only human remains (Malone 2003; Robb 2007). They are usually interpreted as disturbed burials or as bodies, casually disposed. Neither explanation seems plausible in the case of Grapčeva. The human bones are clearly part of the same rapid deposition as the animal bones, and yet none of the human skeletons are complete.

The recent test-trench yielded 77 fragments of human bone (Table 9.2). Of these, only nine small specimens post-dated Phase 1. All body parts were present, but no individual was completely represented. The few articulations tended to occur where ligament attachments are strongest. There were surprisingly few carpals, tarsals, or metapodials. These robust and numerous bones were usually among the most commonly found, but are easily lost when a skeleton is moved. The low number of anatomical connections, and the fact that the missing elements cannot be explained as lost through attrition, together suggest that the human remains represent secondary burials.

Table 9.2 Human remains from Grapčeva Cave

Element	*Side*	*n*	*Age/Sex*	*Comment*
Temporal		2		
Temporal/occipital		1		
Occipital	R	1		Appears polished
Occipital	R	1	Female?	Mastoid process very delicate, appears polished
Occipital		1		
Parietal		1		Burnt
Parietal	L	1	Young	Pre-excavation break along suture, Wurmian bones
Parietal (2 pieces)		1	Child	Age estimate based on size
Maxilla	R	1	Infant	Tiny, immature
Upper incisor	L	1	Adult	Some calculus
Upper first incisor	R	1	Young adult	Overbite
Upper second incisor	R	1	Young adult	Overbite
Lower second incisor	L	1	Adult	Some calculus
Upper canine	L	1	Mature adult	Very worn
Upper canine	L	1	Young – adolescent	No calculus, unworn
Upper canine	R	1	Young adult	Overbite
Lower canine	R	1	Adolescent/Young adult	Unworn
Lower molar 2 or 3	L	1	Young – adolescent	No calculus, unworn
Atlas		4		
Cervical vertebrae		6	30+	2 with slight arthritis
Seventh cervical vertebrae		2		
Thoracic vertebrae		12		
Thoracic vertebrae		1	Child	Small
Lumbar vertebrae		7		3 with arthritis
Lumbar vertebrae		1	30+	Compressed
First or second rib	R	1		
Scapula	R	1	Late adolescent	Olecronon process just fused
Clavicle	R	2		
Clavicle	L	1		
Clavicle	L	1	20+, female	Fused
Humerus	L	1		
Humerus	R	1		
Ulna	L	1	Adult 30+	Hint of degenerative joint disease
Ulna	R	1	Adult 30+	Hint of degenerative joint disease
Radius	R	1	>15, probably adult	23 cm
Radius	L	1		
IV metacarpal	R	1	10–15 years	Unfused epiphysis
IV metacarpal	R	1		
IV metacarpal	L	1		
Intermediate phalanx (hand)		1		
Femur	L	1		
Femur	R	1		
Tibia	R	1	Child	Age estimate based on size
Tibia	R	1	Young child	Very small, some immature bone
Tibia	L	1	Young child	Very small, some immature bone
Talus	R	1		Articulates with below
Calcaneum	R	1		Articulates with above
Proximal phalanx (foot)		1		

The minimum number of individuals (MNI) was seven, estimated from the range of ages: an infant, a young child, a child, an adolescent, an adolescent/young adult, an adult, and a mature adult. Only two individuals could be biologically sexed: one individual was definitely attributed as female and

the other probably female.

A review of past reports (Gasperini 1888; Rutar 1888; Novak 1955; Sakarž 1955) suggests that the distribution of human bones was similar throughout the cave. The majority of the bones from previous excavations came from Novak's 'Great Layer' (Novak 1955). The total quantity of remains, particularly if measured by the minimum number of individuals represented, is surprisingly high. A precise calculation is not possible due to incomplete data, but a rough estimate can be attempted. Taking into account that disturbed skeletal remains will generally appear less numerous than undisturbed burials in terms of the minimal number of individuals (Robb 1991, 122), Grapčeva probably contained the fragmentary remains of a few dozen people of all ages.

Taphonomically, some of the human bones are similar to those in the faunal assemblage. Two specimens have a slightly polished surface, possibly the result of having been buried with some of the flesh protecting and oiling the bone; none of these specimens have, however, the end-polishing of fractures typical of 'pot polish'. Another question raised by the human remains, scattered within what appears to be a feast midden, is the possibility that cannibalism took place. This does not necessarily contradict the argument that these bones are a result of burial, as endocannibalism has been shown to take place as a part of mortuary rites (Parker Pearson 1999, 52–53). Cannibalism, however, is notoriously hard to demonstrate (White 1992; Robb 1994, 37; Parker Pearson 1999, 54), and it is not surprising that no conclusive evidence was found for it in the present sample.

Flaked stone artefacts

When compared to the pottery, the lithic assemblage of Phase 1 is quantitatively small and relatively unremarkable. Only 16 flaked-stone artefacts were recovered: seven retouched tools (Fig. 9.12), seven pieces of debitage (four flakes and three blade segments) and two amorphous core-fragments, all crafted from various fine-grained cherts whose sources remain unknown. The absence of debris suggests that flint-knapping was a rare activity and it appears the cave was a place where a few finished tools were used and subsequently discarded.

The most common tool-type comprises a retouched blade with normal, semi-abrupt retouch extending along part or the entire length of one or both lateral edges, converging to a point at the distal end. One example (Fig. 9.12: 5) resembles Early Neolithic 'shell-openers' from Sušac and Coppa Nevigata (Bass 1998, 169, fig. 4), but comparative material is also to be found at Middle Neolithic settlements such as Danilo (Korošec 1958, pls 53–54), or Late Neolithic settlements such as Lisičići (Benac 1958, pl. 3, 13–15). The assemblage does not contain a single scraper, a class of tool that usually dominates Neolithic assemblages (Forenbaher 2006; Forenbaher & Nikitović 2010). Their absence suggests that some of the more common Neolithic domestic activities were not practiced at Grapčeva (Forenbaher 2008b).

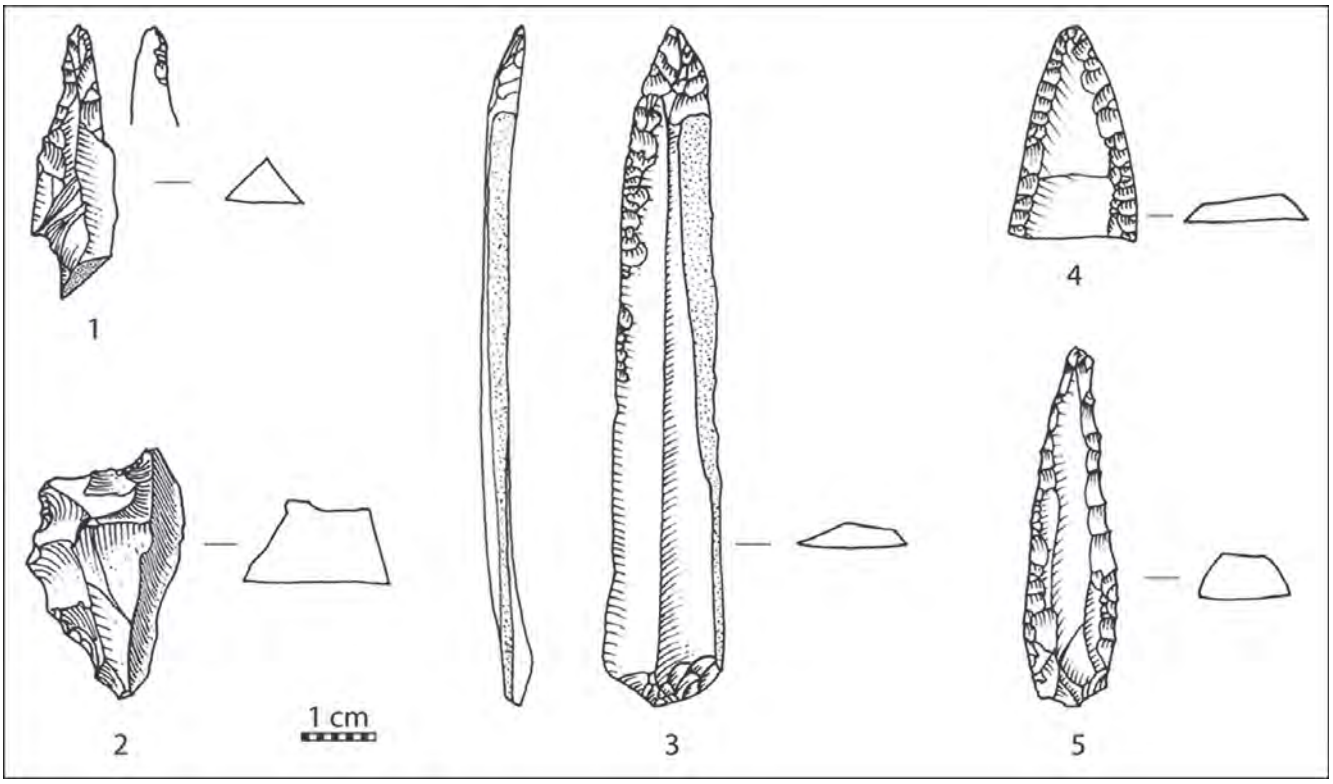

Figure 9.12 A selection of flaked stone artefacts from Grapčeva Cave: 1) drill; 2) denticulate; 3–5) retouched blades

Plant macro-remains

Analysis indicates that plant macrofossils are more abundant and diverse in Phase 1 than in any of the other phases identified. Wild plants heavily outnumber domesticates. Acorn meat fragments, cypress seeds and cone fragments, and juniper-berry cones are common, while charred juniper-berry cones and almond nutshell fragments appear in this phase only. The few fragments of carbonized material that were analyzed probably came from juniper and an evergreen oak. Rare crop-remains include a few grains of emmer, einkorn, bread wheat, barley, and lentils (Borojević *et al*. 2008).

It would appear that the Neolithic inhabitants of Grapčeva Cave generally procured wild foodstuffs from their immediate environs but, less frequently, also processed domesticated produce brought in from more distant fields. Evergreen Mediterranean vegetation was exploited for fuel. Acorns may have been used as a buffer food or for their healing properties (attested at least since Classical Antiquity: Vencl 1996). Wild almonds could have been eaten after the toxic glycoside amygdaline they contain had been removed by leaching. Like acorns, almond oil may have been used medicinally or in rituals. It is known that juniper's aromatic foliage and resins were often used in the past for spiritual purposes, burnt for incense in temples, and used in traditional medicine (Heilmeyer 2007, 62–63; Menković *et al*. 2011).

Ritual at Grapčeva Cave

The earliest visits to Grapčeva Cave by humans appear to have taken place at around 5900 BC, a time when farming had only just arrived in the southern Adriatic, its rapid spread marked today by finds of Early Neolithic Impressed Ware pottery (Forenbaher & Miracle 2005; 2014; Forenbaher *et al*. 2013).

There is no evidence available to suggest that Grapčeva was then anything other than a rather unimportant location in the Early Neolithic landscape, used only occasionally as a convenient shelter on a casual basis. Such sporadic visits to the cave continued during the Middle Neolithic (the second half of the 6th millennium BC).

Intensive activities began abruptly at approximately 4800 and continued until about 4300 BC (i.e. Grapčeva Phase 1). During this phase, the cave was not in use merely as a casual shelter or sheep-pen but, instead, appears to have been in use primarily for ritual activities and its function changed yet again after approximately 4300 BC. Beginning with Phase 2, the deposits at Grapčeva Cave are virtually indistinguishable from those commonly encountered at other post-Mesolithic cave sites in the region (Boschian & Montagnari Kokelj 2000; Boschian 2006; Kaiser & Forenbaher n.d.; Forenbaher & Kaiser 2003), and their artefactual contents are unremarkable. Grapčeva was now used as a shelter by herders and their animals.

Aspects of ritual behaviour appear to be evident in the archaeological remains of Grapčeva's Phase 1. The subject of the archaeological correlates of ritual behaviour has been debated widely in the archaeological literature; recently, specific attention has been given to the subject of ritual behaviour in caves (for a sample of the range of discussion see Moyes (2012); see Whitehouse (1992), Skeates (2012), and Tomkins (2012) for discussions of Mediterranean Neolithic caves and rituals). The particular expositions that we follow in this chapter are those by Renfrew (1985, 16; 2007) and Blake (2005) who identify liminality, ways of focusing attention, the presence of transcendent beings or spirits, offerings, and participation in symbolic activities as among the indicators of ritual in archaeological contexts.

While the majority of Adriatic caves may be considered to occupy a liminal zone between the familiar surface world of everyday life and the unfamiliar world of the underground, Grapčeva's extraordinary location and features of its morphology render it a more likely candidate for sequestered ritual behaviour than most. Its topographic setting is spectacular, and its entrance is small and well hidden. A short, narrow passage restricts access to the cave's dark interior, adding to an atmosphere of secrecy and mystery. The large main-chamber, with its massive stalagmitic columns and curtains, provides a striking setting. Grapčeva shares with certain Italian sites attributes of two of the three major 'ritual themes' ('secrecy' and 'abnormal water') identified by Whitehouse (1992) in her study of Neolithic southern Italy, a region that was demonstrably in contact with Dalmatia. Following Whitehouse, a group of Grapčeva's characteristics (underground situation, hidden location, difficulty of access, darkness, restriction of space) would constitute the 'secrecy theme' (Whitehouse 1992, 129). Abnormally behaving water (in our case, moving, dripping, liquid water becoming solid, immobile stalagmites) would represent transition and marginality (Whitehouse 1992, 133). These may be considered particularly appropriate characteristics of a place intended for cult use.

Artefacts or natural objects that might be interpreted as symbolic representations of the supernatural were not recovered at Grapčeva. Unlike nearby Nakovana Cave on the neighbouring Pelješac Peninsula, where Iron Age/Hellenistic period ceramics have been found to cluster very clearly around a ritual focus (Forenbaher & Kaiser 2006b; Kaiser & Forenbaher 2012), there is no particular pattern in the spatial distribution of finds in the present test-trench that would suggest a ritual focus of any kind. Of course, nothing of the sort may ever have existed at Grapčeva; alternatively, spatial patterns in the distribution of artefacts may now be lost, overlooked by earlier excavators.

The macro-botanical assemblage includes a number of wild-plant remains with potential medicinal and/or ritual uses, such as acorns, juniper berries and almonds (Borojević *et al*. 2008). The aromatic, resin-rich juniper foliage may have been burnt as incense. While an attractive argument, the evidence for the use of plants at Grapčeva as attention-focusing or consciousness-altering devices remains inconclusive.

The majority of the evidence related to ritual practice at Grapčeva Cave appears to concern human participation and offerings to the supernatural. The sediment itself offers the first set of indicators. It differs markedly from the usual eastern Adriatic Neolithic cave deposits and their residues of everyday life. It also differs sharply from all underlying and overlying layers at Grapčeva, and appears to have accumulated much more rapidly than those layers. Its overall composition resembles those of 'combustion features' found on many Italian Neolithic sites and interpreted by Robb (2007, 149–152) as earth ovens used to roast large cuts of meat, possibly on a large scale. Earth ovens are ethnographically and archaeologically documented as the slow-cookers of many societies; they are especially useful when preparing food for many consumers. This mode of cooking entails placing fire-heated rocks above and below packages of food (e.g. joints of meat, roots and tubers, molluscs) wrapped in leaves or grass. Sealed under a bank of earth, or sometimes seaweed, the food roasts (braises, actually) over a long period of hours, or even days. The result is a tender, flavourful meal quite different from those produced by other methods of cooking (Sillitoe 1997). If the rocky, charcoal-laden deposits of Grapčeva Phase 1 did indeed result from the construction of earth ovens, then evidently they involved bringing in several metric tons of rocks from the cave's immediate surroundings. Why the Neolithic occupants of Grapčeva did not re-use stones already delivered to the cave is not clear, but as a cultural choice the effect was quite literally to pile up memories of past culinary events. Repeated deliveries of rock may also have had the effect of disturbing, or purposefully masking, the traces of earlier ritual performances (Kyriakidis 2007, 20). Deliberately constructed hearths are also contained within this deposit. Extrapolating from the present test-trench, and taking into account the information available from earlier excavations, it is estimated that carefully built hearths were constructed at Grapčeva every few years.

In these deposits, pottery is several times more abundant than in other phases of the site; the average rates of pottery discard are one order of magnitude greater than in the later phases. Sherds are relatively large, possibly reflecting deliberate breakage. Approximately 80% of all diagnostic sherds whose original vessel shape can be inferred come from medium-sized bowls. Very few of these bowls show signs of having been used for cooking (such as carbonized residues or post-firing, heat-induced colour variations on external surfaces). It is likely that the majority of bowls were used for serving, or for food-preparation that did not involve cooking.

Vessels were more highly decorated than in other phases at Grapčeva or at other contemporary eastern Adriatic cave sites (Forenbaher & Kaiser 2006a; Forenbaher *et al*. 2008, 15, table 2). Many of the medium-sized bowls had a bright-red band painted on, or just below, the rim. The pigment often used in this case was made with cinnabar, a poisonous mercury-compound. Bowls with cinnabar-painted lips would have been inappropriate for serving or for the preparation of food. They may have been decorated in this manner with the explicit intention of preventing utilitarian use, used instead for (or as) offerings. Not all painted bowls were, however, decorated with a mercury-based pigment; in our sample, approximately half were painted with an iron-based colourant. Since sources of cinnabar are

comparatively rare, and sources of ochre are common, it is possible that ochre was used as a cheap substitute. Could a casual Neolithic observer discern the difference?

It would seem likely that, upon seeing the decorated vessels displayed in Grapčeva's dark zone, the observer would have experienced a feeling of recognition, perhaps on several simultaneous levels. From the simple red-bands painted on, or just below, the rims of bowls to the rectilinear, curvilinear, and even more elaborate geometric patterns, pottery decoration at Grapčeva was part of a centuries-old tradition and so must have been executed repeatedly (annually? more often?) down through generations, becoming instantly identifiable by members of the community. A sense of familiarity accompanied these ornamented vessels. Presumably, the selection of decorated pots to be used and left behind in the cave would have involved a judgment as to their appropriateness. They may well have been selected in order to convey an impression of tradition and of suitability for the occasion. Just the sight of such pottery would act as a cue, triggering memories, associations, and behaviour – likely including whatever behaviour would have been culturally appropriate for a ceremony or feast.

The faunal assemblage provides another set of clues. As with the pottery, animal bones are generally found in abundance in Phase 1, the average rates of their discard being an order of magnitude greater than in later phases. It appears that lamb and goat, as well as prime cuts of beef, venison, and hare were brought to the cave to be consumed. There is no evidence that meat was boiled; it was either spit-roasted over open fires in hearths and/or was braised in earth ovens. The use of special methods of cooking is important in many ethno-cuisines which link certain modes of preparation to specific foods and specific consumers (Wiessner & Schiefenhövel 1996). The preferential representation of left goat-limbs and right sheep-limbs, as well as the over-representation of young female sheep, further suggest symbolically charged behaviour. The structured nature apparent in the faunal assemblage suggests that it was created during repeated enactments of a communal cultural event such as a feast or other form of ceremonial activity.

The Phase 1 remains of Grapčeva Cave incorporated the disarticulated remains of a few dozen people of all ages. A comparable situation was also encountered at Scaloria Cave, a southern Italian Middle Neolithic ritual site, where the disarticulated remains of some 30 people, as well as a few partially articulated or complete skeletons, were recovered (Robb *et al*. in press). Although the assemblage has been variously explained (for example, as having probably originated with the disturbance of single primary inhumations: Winn & Shimabuku 1988), Robb *et al*. (2015) have recently argued that taphonomic evidence establishes that the cave was a place where bones and whole bodies were re-deposited from communities near and far. At Scaloria, as at Grapčeva, intentional disorder appears to have been created by mixing the bones of multiple individuals over time. At Grapčeva, there is no evidence of primary burials, disturbed or otherwise. Instead, the evidence is clear that selected human bones from a range of individuals were brought to the cave for secondary burial where they became mixed with others.

Death and burial are considered to be where cosmological belief, group solidarity, individual and group status, and certain practical factors of economy and settlement intersect (Parker Pearson 1999, 142–147; Robb 1994, 27). Central to the human experience though they might be, the material evidence of mortuary practices, as preserved archaeologically, is rarely easy to interpret. At Grapčeva Cave some ritual activities appear to have involved the disposal of human remains. Other rituals may

also have been performed there, but remain archaeologically invisible (Kyriakidis 2007, 15). Still, some ritual patterns stand out.

Grapčeva Cave constitutes a natural setting within the landscape that is visually striking. At the same time, it is sequestered, secretive, and otherworldly. Once every few years, hearths were constructed in the cave and substantial quantities of meat were cooked in earth ovens. There is no evidence that cereals, legumes, or other plant-foods were prepared on the same scale. Meat appears to have been consumed at feasts, with some of the more unusual patterns observed with the faunal data best explained as the result of symbol-laden behaviour. Medicinal plants may have been ingested and aromatic shrubs used as incense. Many highly decorated medium-sized bowls, some of them made in such a manner as to be dysfunctional, were brought to the cave and purposefully removed from circulation. Disarticulated human bones from multiple individuals were also brought to the cave and deposited there. All of these activities appear to have been repeated many times over a period of several centuries at Grapčeva Cave.

Mortuary ritual, other rites, and Neolithic society in the eastern Adriatic

Ritual behaviour is framed and conducted under specific historical, social, cultural, and material conditions. Unfortunately, while we know a little about the general contours of eastern Adriatic Neolithic society, much less is known about specific conditions and events, not least local mortuary customs. Consequently, in terms of the present discussion, it is necessary to refer to the extensive body of evidence from Neolithic Italy, an area evidently in contact with the eastern Adriatic region (Forenbaher 2008a; 2009).

Neolithic mortuary evidence from the eastern Adriatic comprises approximately a dozen formal burials and a number of isolated bones (Zlatunić 2003, 57–68). Information is often sketchy and uncertain, and detailed forensic reports are scarce (Mikic 1981). The existing data suggest that cave burials are rare. Two near-complete adult skeletons in flexed positions, and an isolated mandible, were found in the Late Neolithic levels at Vela Cave on the island of Korćula (Ćećuk & Radić 2005, 160–161). The scattered remains of a child burial were recovered from the Late Neolithic levels of Ravlića Cave (Marijanović 1981, 12–13), while 3 other caves yielded a few human bones attributable to the Neolithic: Badanj (Benac 1962, 7), Markova (Novak 1959, 53) and Zelena (Benac 1957, 65; Batović 1979, 495).

Primary burials are slightly more common at open-air settlement sites, such as Smilčić, Danilo, and Crno Vrilo, where they were often found situated near, or within, structures interpreted as habitations (Batovič 1967, 264–270; Korošec 1958, 25–26; Moore *et al*. 2007, 17; Marijanović 2003). In addition to formal burials, open-air settlements also yielded fragmented human remains, including the skull fragments of about 10 individuals at Smilčić (Batović 1967, 270–272), a single skull-fragment at Danilo (Korošec 1958, 26) and a mandible at Lisicici (Benac 1958, 90).

The most commonly reported skeletal elements among the isolated human remains are skull fragments and mandibles. These were previously considered to be evidence of a ‘Skull Cult’ (Benac 1962, 7; Batović 1967, 275) which would be consistent with a more recent claim that skull re-burial, or curation, was sometimes practiced in Neolithic Italy (Robb 1991, 114–115; 2007, 58–60). It is suggested here, however, that the recovery techniques formerly employed in eastern Adriatic excavations, in which selective recovery appears to have been the norm, biased the sample in favour of

easily recognizable skulls and mandibles. By contrast, in the present systematically recovered sample from Grapčeva, skull and mandible fragments are not overrepresented.

The relatively small number of primary inhumations and the complete absence of formal cemeteries in the eastern Adriatic Neolithic cannot be attributed to inadequate research alone and, to a degree, is likely to reflect predominant mortuary customs. Neolithic communities may have disposed of their dead in ways that have left little or no archaeological signature. While some of the human bones found scattered around settlements and caves may constitute the remains of disturbed formal burials (Robb 2007, 58), others – such as those from Grapčeva – provide clues relating to different kinds of mortuary practices.

There is evidence to suggest that, occasionally, a number of other caves in central Dalmatia were used also for mortuary purposes, but the highly unusual contents assigned to Grapčeva's Phase 1 emphasize this site's extra-special significance. Grapčeva may have been chosen for use as a ritual centre due to its extraordinary landscape setting and its suitable internal morphology. The communal feasts that appear to have been held in the cave involved an unusual abundance of otherwise ordinary food items. A number of ethnographic studies suggest that in societies where inequalities are weakly developed it is the quantity of food (rather than its style or quality) that expresses the special nature of a ceremonial feast (van der Veen 2003; Dietler & Hayden 2001). Thus, the abundance of otherwise ordinary food remains of Phase 1 at Grapčeva could be construed as evidence of ceremonies aimed at reinforcing social homogeneity and/or resisting the emergence of social ranking.

It would appear that the feasts were not seasonal and took place only every few years, possibly in relation to the death of a particular member of the community. This is borne out by the fact that Grapčeva also served as a communal burial site, providing the setting for ancestral remains to be revisited, celebrated, augmented, possibly rearranged or even taken away and circulated. These are among the common attributes of an ancestor cult (Blake 2005, 112). The apparent mixing of multiple individuals strongly suggests a ceremony that implicates some aspect(s) of a shared group identity, reinforcing and re-affirming a sense of 'us'. While burial at Grapčeva may have been reserved for particular members of a local community, the (re)buried presence of individuals of all ages suggests that it was not restricted to some subset of that community.

Why did ritual activities at Grapčeva commence in the early 5th millennium BC? Since we know so relatively little about the regional social dynamics of Neolithic central Dalmatia, we turn to the western side of the Adriatic for informative analogies. With the latter, the transformation of prehistoric societies from the heterarchies of the Early Neolithic to the unstable hierarchies of the Bronze Age was a very gradual process, unfolding in fits and starts, with no necessarily common pattern among the communities and regions affected. Robb (2007, 339) has argued that: '… the conceptual components of this change arose in several distinct phases in Italy, with… a shift to burial to mediate social relationships in the Late Neolithic and the concept of personal prestige competition via display of valuables in the Copper Age'. The paths taken by the communities involved were complex and followed no single trajectory since they were made up of variably constrained, locally specific, individual, and collective solutions to life's problems. Essentially, new social relationships reconfigured the attachments between people, places, and their pasts.

Repetitive acts of ritual participation or observation have the effect of creating lasting memories, at first specific and then general as they recede into the past, submerged by other iterations. These

memories can be accessed, interpreted, and employed differently by individuals, but in one way or another they serve to guide people through the myriad choices to be made in pursuing the realisation of personal goals and/or group projects.

While men and women have resorted to ritual as a very effective means of re-affirming the status quo – the aggregate of goals and projects realised and unrealised – ritual can also stabilise and reinforce a new social configuration as it emerges from the choices people have made (Renfrew 2007, 118). Thus, the social changes that marked the onset of the Italian Late Neolithic in the later 5th millennium BC coincided with an overall increase in ritualised burial practices (Robb 1994; 1999; 2007). Essentially, over time, a landscape of villages was replaced by a landscape of the dead as communal tombs replaced settlements as the physical repositories of the common history of the group.

As these changes began to gain prevalence on the Italian mainland, on the other side of the Adriatic Grapčeva Cave became a focal point in the mortuary (and other?) ritual practices of a group, or groups, on the island of Hvar. The cave may have provided a setting at which specific shared memories were (re)produced and maintained at a time when group history and genealogy were gaining in importance. The mixing of body parts, artefacts, and other remains, and vestiges of activities at the cave, may be considered as a representation of non-specific, unbranded, times past. Repeated episodes would imbue in the minds of Neolithic *Hvarani* a sense that this place, this cave, was steeped in the past, and thus important to their senses of themselves.

Why did such cultural practices at Grapčeva cease at approximately 4300 BC? Was it just another outcome of 'people simply getting on with their own lives' (Robb 2007, 2)? There are no indications of anything dramatic occurring in the eastern Adriatic around that time. 'Hvar' style pottery continued to be produced throughout the region for centuries to come, and the radical changes of the Late Copper Age lay over a thousand years in the future. The first monumental structures in the eastern Adriatic's version of a 'landscape of the dead' – burial mounds – together with the earliest clear expressions of social ranking, did not appear until some point in the 3rd millennium BC. As with mainland Italy, these changes were likely to have been the aggregate result of local conditions, choices, and events. The explanation for Grapčeva's brief moment as a ritual place probably lies with the as-yet undiscovered evidence of everyday Neolithic lives on the islands of central Dalmatia.

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10

Moving worlds: memory, mobility and mortality in the aceramic Neolithic of Cyprus

Paula L. Lutescu-Jones

This chapter will explore the movement and (re)creation of worlds in the Early to Later Aceramic Neolithic of Cyprus (c. 8500–5500 cal BC). The mundane, everydayness of peoples lives forms the core of their existence – bridging theirs and 'others' pasts and presents. This familiar, shared past, produces a situated present, which is mobilised with(in) people when they relocate and is continually re-negotiated and re-created in line with shifting perceptions of themselves, their mortality and their inhabited world. Thus the processes of dying and death not only blur the boundaries of subject/object, but also bring into view, and 'materialise' our mundane worlds in new ways, transforming the nature and experience of places, people and 'things'. Death and the body, like material culture, can be recreated and transformed, manipulated and assigned place. Through an understanding of the temporality of death as an historically situated construct, and the emotional and mnemonic potencies of embodied practices, this chapter aims to provide an insight into the particularity of concepts of mortality, and moreover, the manner in which ideals are emanated and identities renegotiated during the Aceramic Neolithic.

The maritime communities of the eastern Mediterranean basin

> 'A consciousness of earth and ocean, such is the deserted island, ready to begin the world anew' (Deleuze 2004, 11)

Understanding the idiosyncratic nature of the Aceramic Neolithic of Cyprus (c. 8500–5500 cal BC) at least in part entails recognition of the impact that movement and mobilisation had upon its subsequent (re)creation and development. This 'world' was at least in part a product of its transportation across

landscapes and seascapes during the Epipalaeolithic and early Aceramic Neolithic (hereafter EAN), and as such was a world which had been ‘mobilised’ by the people who had (re)created and sustained it over the millennia (see also Jones 2008). The way in which the archaeological remains have been approached in the past has often led to Cyprus being viewed as isolated, insular, and fundamentally ‘backwards’ in its development (Held 1993; Ronen 1995; Finlayson 2004; Steel 2004). However, it is suggested here that it is the processes of mobilising worlds, of (re)creating and sustaining, that has most influenced the distinctiveness of the archaeological record, and the lives of Cyprus’s Neolithic inhabitants. The initial inhabitants of Cyprus were likely to have been among the earliest maritime communities of the eastern Mediterranean basin, whose identities and ways of being had been drawn from inland to the coastlines of the Levant and Anatolia. The discovery of now submerged sites along the coastline of the Levant, such as Atlit Yam now attests to the presence of contemporary coastal communities (Galili *et. al* 2002; 2004). Hence the historical and cultural context of the individuals settling on Cyprus by the EAN and LAN appears to have been both diverse and complex.

For Cyprus, the terms ‘isolation’ and ‘insularity’ have themselves become the enemy of its understanding; the physical nature of Cyprus as an island has essentially predetermined, and indeed undermined, any further interpretation of its seemingly idiosyncratic beginnings. The presence of the sea between Cyprus and the ‘mainland’ has been viewed as a restrictive factor, an obstacle, which people were forced to overcome. Hence, the sea, rather than being a part of the landscape, has been seen as a boundary. Interpretations of the ‘colonisation’ of Cyprus have focused on the differences visible between sites on Cyprus and their mainland contemporaries, and from these comparisons it has often been deduced that the island status of Cyprus was to the detriment of its inhabitants, leading them ever further away from the ‘advancements’ of their contemporaries. As suggested by Rapports arguments for a post cultural anthropology – seeking only the *differences* has produced an exoticised fiction. Furthermore, Rainbird (1999, 231–232) argued that models, which emphasise the bounded landscape, at the expense of the broader seascape, have stemmed from long-standing Western views of islands as isolated, exotic and insular locales. Despite these critiques, the archaeological remains of mainland communities in the Levant have often been referred to as a backdrop into which Cyprus is expected to fit, and as such the mainland has grown to represent the Neolithic *norm*, although it is notable that the same assumptions are seldom held for the majority of modern island societies; there seems little expectation for them to precisely ‘mimic’ their mainland associates, as Cyprus itself has often been expected to do.

Figure 10.1 Satellite image of Cyprus and the Levant (NASA)

Hence, in the case of prehistoric Cyprus, this understanding of the significance of fundamental human choice is all too frequently lost and neglected. Of course, for the people of the Aceramic Neolithic, knowledge of Cyprus was combined with a far more intimate knowledge of where they had come from, memories of home, and familiar land and seascapes. Hence the 'settlers' of Cyprus, as part of the earliest maritime communities of the eastern Mediterranean basin, came with their own historical, cultural and ideological 'baggage', which needs to be addressed in order to understand what followed their arrival. As Chateaubriand aptly stated: 'Every man carries with him a world which is composed of all that he has seen and loved, and to which he constantly returns, even when he is travelling through, and seems to be living in, some different world' (Chateaubriand, cited in Sutton 2001, 73). This chapter will therefore consider specifically the roles of memory, materiality and movement in relation to mortuary practices throughout the Early and Later Aceramic Neolithic of Cyprus in order to illuminate the humanistic processes behind the unique archaeological manifestations witnessed within this particular island context.

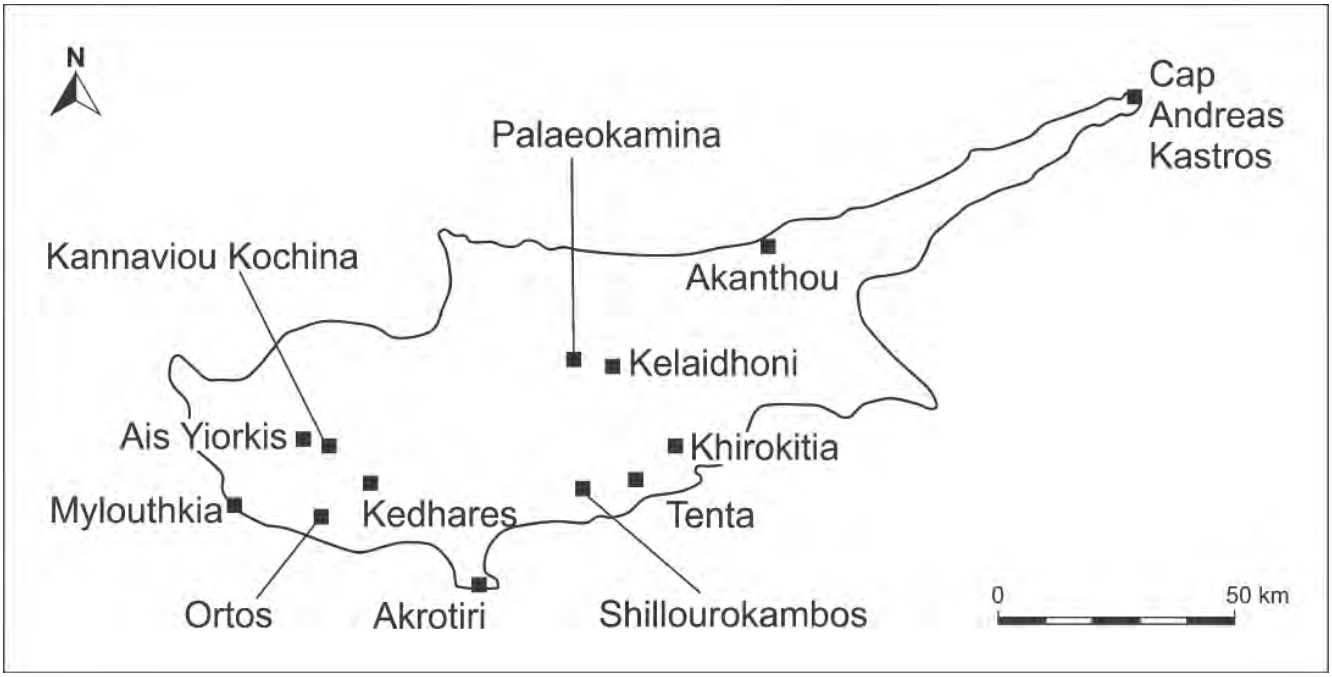

Figure 10.2 Epipalaeolithic–Late Aceramic Neolithic sites in Cyprus

(Re)creating worlds and identities

One of the major stumbling blocks in understanding the Cypriot Neolithic has been the perceived architectural stagnation, the emergence of rectilinear forms on the mainland by the PPNB (see Rollefson *et al*. 1992, 10, fig. 5). Hence, the continuation of circular forms on Cyprus has frequently been questioned and taken as a signifier of 'cultural retardation'. The existence of circular architecture long before the colonisation of Cyprus makes this particular style of construction a long-standing tradition, one which is continued rather than discarded, most famously at Khirokitia and Tenta, but also earlier at Shillourokambos. These are already ancient forms, attested at Natufian Ain Mallaha, and Hayonim cave (Valla 1988; Belfer-Cohen 1988; 1992; 1995). Such structures are associated in the Natufian with mortuary practices and the deposition of human remains. In Cyprus it has long been argued that these monumental structures are domestic dwelling places; however, as I have argued elsewhere, these sites are the exception rather than the rule, and Khirokitia, once the quintessential 'village' and Aceramic Neolithic typesite, can be better understood as a necropolis or a monumental mortuary site (Jones 2008, 123–126). Hence the continuation of these architectural traditions in Cyprus is part of an enduring association between these particular places and the dead, and represents the embellishment of tradition. Thus people chose what to take with them, and what to leave behind; they adapted what they needed to, and left other traditions unaltered to endure the millennia.

People had existed in the Levant as mobile hunter-gatherers since the Middle Epipalaeolithic, and are later thought to have become the earliest 'agriculturalists' in the world (Cauvin 2000). Hence the Levant has been at the centre of discussions regarding the 'origins of agriculture' and concepts of 'sedentism' for decades, despite the questionable nature of such constructs and the call for more nuanced approaches (Boyd 2005). At the point in which Cyprus enters this equation, people's 'mode of subsistence' was on the cusp; 'domestication' of plants and animals had already begun, and the general layout of 'settlements' was undergoing alteration (Peltenburg & Wasse 2004; Colledge 2004).

Potentially the people who chose to stay and live on Cyprus were fully aware of these changes taking place, but were choosing not to follow the same course. Perhaps it was unnecessary, undesirable or maybe even irrelevant. The significances we assign to these ‘events’ and transitions are obviously part of our own concepts of social evolution, and of our terms of practicality and advancement. They are ultimately the result of our archaeological discourse.

Figure 10.3 Monumental circular tholoi at Khirokitia (photo: P. Lutescu-Jones, 2012)

It had long been assumed that people would adopt farming as a way of life as soon as it was made available to them, by whatever means the techniques came to them, and this has persistently been seen as an *inevitable* change. According to Held (1993, 28) ‘ignorance’ was the cause of ‘technological inferiority’ in Cyprus, and was the direct result of its isolation. Hence, whilst the ways in which the Mesolithic–Neolithic transition has been approached is perhaps most influential in the region of the ‘fertile crescent’, here it has perhaps also been the most fixed.

The move from mainland to island was not a singular event which took place ‘overnight’, as a far more complex and long-term process of moving worlds had already begun by the time of Akrotiri, around 10,600 BP. Before this site was ever utilised by people, the locale itself may have already existed within social memory and mythology. It is famed for its large quantities of fossilised pygmy hippo and pygmy elephant bones, and has become central in discussions of megafaunal extinction within the Mediterranean islands (Simmons 1999). The island of Cyprus was not entirely an unknown; it was almost certainly ‘new’ in many respects, but it no doubt had a history, which involved the interaction of people with particular places over millennia. This history, producing the equivalent to a Heideggerian ‘preunderstanding’, meant that decisions could be made regarding movement to Cyprus on a more permanent basis. There is an intentionality involved, a deliberate and conscious choice to move and to re-create place and the movement of people is only one aspect of a much wider movement of ‘worlds’. This movement of worlds is not a process which reaches a finite end, but is rather a continuous process of re-evaluation, re-establishment, and involves re-invention and peoples’

creativity. Crucially, much of this world is constituted by the mundane – peoples 'everydayness'. This is very different to a 'Noah's Ark' scenario where a 'Neolithic Package' was up-rooted and transported wholesale from mainland to island, and which later suffers and diminishes due to the inherent forgetfulness of the sea-farers who lost their boat. Instead this is about the movement of each and every aspect of peoples' lives and all that was a part of them, their histories and memories, their 'ways of doing', and hence, ultimately their 'ways of being'.

Figure 10.4 The coastline of Akrotiri-Aetokremnos, Cyprus (photo: P. Lutescu-Jones, 2004)

According to Connerton (1989, 6) there can be no 'absolutely new', since the new always needs grounding in the past. At this point in time, it is also clear that people were experienced enough in their involvement with animals and plants to enable the transportation of both wild and 'domestic' species, and to ensure their survival and proliferation in a new environment (as exemplified by the presence of pig and deer during the Aceramic Neolithic levels at Akrotiri; Simmons 1999, 31, 166, 332). These other living-beings were not simply transferred in order to sustain the human population; they formed a crucial part of their existence and way of living, and as such it would have been impossible to leave them behind (Jones 2009). Raw materials such as obsidian were also transported to Cyprus, and equally formed such a valued part of peoples' worlds that the investment of time and energy into their transference was deemed worthwhile. Intention and choice are clearly visible in these decisions; Cyprus lacked in large endemic megafauna and 'domestic' crops prior to these introductions, but it was

still capable of sustaining human populations. Since many of the earliest sites are located near the coast it is clear that marine resources could have been exploited (and in some instances were), and the densely wooded interior of the island would have provided ample wild fruits and other consumable plants. What is evident is the preference and desire to re-establish the existing way of living (Jones 2008, chapter 6). The movement of animals, materials and crops is only a fraction of the movement which was underway, the movement of people entails the movement of ideals and preoccupations, which go beyond the physical realm. People equally moved with them their beliefs, aspirations, experiences and memories. In doing so, these facets of their existence, their everydayness, underwent transformation through their renegotiation in a new place and context.

Shared pasts – shared worlds

Memory in its collective sense is not equivalent to a shared consciousness, but is rather a *perceived* shared *understanding*; a faith that others 'share' the same understanding of the past and the same experiences as ourselves. This in turn relies heavily on the commonality of the past, and on shared experiences. For the most part these experiences relate to the everyday and the mundane. The making of tools, stone vessels, figurines, collection and preparation of food, hunting, eating, walking, talking, laughing, sleeping – the everyday activities which make up the routine and commonplace. Whilst each individual will have a 'unique', personal and indeed embodied understanding of their own past and experiences, the past they share with others can be remembered 'collectively'. Commonality and simultaneity of experience leads to a sense of a shared circumstance– a present and a past that can be related to. This sense of commonality is essential to the maintenance of not only identities, but also to the construction of shared worlds and world-views. Thus, the sense of unity that is gained through the perception of a shared past bonds individuals together through the merging of their individual histories. In this 'collective memory' multiple versions of the past simultaneously exist, often contradictory yet coherent enough to provide a basis or point of reference which is recognised by each individual being that makes up the 'assemblage'. The shared past need not be the lived past, in that it is no longer necessary for each individual to have personally experienced this past *firsthand*. Rather, this shared past reaches beyond human life cycles and incorporates the lives of the many, and transcends time and space.

It is in this construct of 'the collective' that the persistence of memory is perhaps most visible in the archaeological record. The continuation of well-established traditions and habits, values and ideals, whether in regard to architectural designs, tool making, food, or burial practices, signals the persistence of memories which inform these actions and validate their perseverance as a 'way of doing', and hence, they also reflect the continuation of a 'way of being'. 'Change' is perhaps one of the most noticeable features within the archaeological record (for example, changes in subsistence, mortuary treatment, material culture); however, within each life, change is perceived and experienced in a very different way. These changes, which are so noticeable to an archaeologist, are likely in reality to have taken place rather more gradually, indeed in this case over millennia. As such, they relate to more or less significant events within a much longer and more complex history. In this way, the 'advent of farming' may well have been noted by the people involved in its embryonic phases, but it is unlikely to have re-shaped their worlds instantaneously or even all that significantly. It is precisely because of the shared memories that exist within and between each individual, what Karlsson refers to as 'interpretive

horizons' (2000, 26), that 'life' itself has a sense of stability and permanence. Hence, when changes do occur they only occur against a constant, a preunderstanding, through which any 'new' phenomena are perceived and consumed. The 'new' needs assimilation, practice, and manipulation to fit into the existing (the present and the past). From this perspective, the beginnings of agriculture cannot be understood as a singular event that occurred on a linear trajectory and necessitated 'change'. It occurs not as an event but as part of a continuum, embedded in the everyday, and is therefore not entirely 'new'. Furthermore, even when this 'new' component is taken into an existing world its impact upon the past 'way-of-doing' need not be so significant in ideological terms. People's faith in their own, known way-of-doing still holds a primacy, particularly with regard to their understanding and perception of their identities. Shared or collective memories are fluid in a different way to those of an individual being; they flex according to shared shifts in thinking, and involve negotiation and manipulation. Pasts can be presented differently, according to the agenda of the narrator, as has been well attested by archaeology over the last century. The people who first encountered Cyprus already had a way of living, an everyday existence, which was perpetuated at least in part through the mnemonic potency of the mundane.

Mnemonics and the mundane

Shared worlds and peoples 'everydayness' are continually perpetuated through mnemonics which either intentionally or invasively, bring the past back into the present moment. Seemingly mundane items, which act as continual mnemonic devices, are capable of sustaining and maintaining our worlds, as well as intruding into them and stimulating dormant memories. The key to understanding the role of these mundane items perhaps lies in *intentionality* – whether something is intended to be a mnemonic or acts *independently* of our intentions.

The 'everyday' is inclusive of all that constitutes peoples' worlds, which is encountered on a regular basis, engaged with and embodied as a part of whoever they are, what they do, and their 'place' in the world. Thus, the mnemonic potential of the mundane can be examined in countless ways, through material culture, places, architecture, animals, people, food, views, smells, sounds and activities. The materials which people engage with in order to fabricate and create objects are themselves capable of reminding and reinforcing memories. Memories of the source of the material, why and how it is used, and memories of the people associated with that material. Thus artefacts such as tools, stone vessels, figurines and pendants are not simply things to be utilised for a specific purpose. They are engaged with, perceived, experienced, interpreted and understood; they inform behaviour as well as facilitate it. However, tool typology is perhaps most frequently referred to archaeologically as a marker of periods in time, and regionally specific adaptations; but it is also a *choice*, a decision to make something a particular way, and it has a purpose beyond that of its use. Perceived stagnation in a tool repertoire or architectural forms, as has been suggested for Cyprus, is frequently viewed as technological retardation, and a marker of that society's failure to advance. However, the possibilities that memory has a role to play in this have thus far been neglected for Cyprus. Creating, and indeed, re-creating a material forms in a way which has been shaped over the millennia, is in itself an act of commemoration, actively re-enacting ancient 'ways of doing', performing and re-performing the everyday – the practices and engagement repeated by people over such extended durations that they form the core traditions.

Of course it is not only the *material world*, which acts upon memory in this way, but also the continual, everyday sensory, bodily experience of life, which generates familiarity and continuity in our worlds. Sensory mnemonics are experienced throughout people's lives without any deliberate intervention on the part of the individual, or indeed any desire to embark upon a recollection. A smell may be taken into the body without invitation, and is perhaps one of the most intrusive mnemonics in this way, each individual may have their own particularly reminiscent 'smells', which always remind them of a particular person, place or event in their lives. With regard to landscapes, smell is often a particularly significant aspect of the experience of a place, and there is the potential for shared as well as individual mnemonics. As an instance of this, in Cyprus the pine and cedar forests, together with the thyme-covered hills which release their scent when walked on, all form part of the sensory experience of the island today. In the Aceramic Neolithic, following a relatively mobile lifestyle, peoples' movement through and interaction with their landscape would have generated countless memories and associations, many of which would be remembered due to the mnemonic potencies of sights, smells, sounds, touch and taste.

It is here that food must also be at least noted as vital not only to sustain life, but also to create and maintain shared worlds. Food is both a personal and social experience, involving the senses on a most intimate level. It has the ability to bring home to an unfamiliar place, transform emotions, and in many respects forms the backbone of our mundane lives. Sutton (2001, 102) discussed the power of food in evoking memories and experiences, and its role in forming identities, stating 'Food does not simply symbolise social bonds and divisions; it participates in their creation and re-creation.' In this way, food, being external and becoming internal, effectively becoming part of our bodies whilst moving through them, it is in the truest sense, embodied. Moving the everyday, across seascapes and landscapes, is what enabled a 'new' world to be created.

The temporality of death

> '… historical time is a concrete and living reality with an irreversible onward rush. It is the very plasma in which events are immersed, and the field within which they become intelligible'. (Bloch 1992, 23)

Death, in the Aceramic Neolithic of Cyprus, did not occur out of time. Rather it was temporally situated and enmeshed, and it had an historical context particular to the people who embodied and (re)created a shared past, and a shared world to reside in, and identify with. This historical context, can archaeologically at least, be traced back to the Epipalaeolithic period (if not further) in the Levant, and can be witnessed tangibly through the continuity of certain core traditions and practices surrounding the dead body and its treatment pre- and post-mortem. In particular, continuation and indeed monumentalisation of circular architecture associated with burials, the placement of the body contracted and on one side (in the majority of cases), a precoccupation with the skull (decoration, removal, separate deposition), mixed human and animal burials, the fragmentation of bodies and objects, and the presence of objects clearly associated with processes of transformation, such as grinders, pounders, querns (Boyd 2005; Jones 2008).

Figure 10.5 Aceramic Neolithic stone basin in situ at Khirokitia (left) and 20th century stone basin at Evretou (right) (photos: M. Lutescu-Jones, 2012)

In the EAN, at Mylouthkia and Shillourokambos, the fragmentary secondary remains of humans and animals are found deposited together in a manner roughly comparable with some of the contemporary sites on the mainland such as Kfar HaHoresh (Crubézy *et al*. 2003; Goring-Morris 2005). It must also be noted that the depositions at EAN Mylouthkia are among the first in Cyprus: and so the people buried here, and possibly in the earliest phases of Shillourokambos, represent in some sense 'foundational' burials, and it seems likely that the majority of people visiting and inhabiting Cyprus were being buried elsewhere, perhaps taken out to sea, or returned to sites on the mainland. These deposits are exceptional, and are millennia apart, and therefore it is clear that many more 'bodies' are absent from these sites. Mylouthkia and Shillourokambos thus show much continuity with mainland contemporary practices, with nuanced adjustments and particularities. Death in the EAN is itself in transition, and it's evidently an amalgamation of old and new. The particular deposition of human skulls at Mylouthkia also demonstrates continuity with ancient as well as existing practices (Peltenburg 2003b; Talalay 2004). What currently stands out as being something distinct, is the modification of at least one of the Mylouthkia skulls *in vivo*. In Cyprus people take from the mainland a preoccupation of sorts, surrounding the skull or perhaps more accurately the head. From decapitation post-mortem, to skull decoration, plastered faces, figures and anthropomorphic figurines, this part of the body had been isolated for specialised treatment in various ways for thousands of years (Croucher 2004). Such a time span is almost incomprehensible in terms of our knowledge of our own histories, however on arrival in Cyprus people take what had long been associated purely with the dead and began to explore its potential in life. First attested at Mylouthkia around 10,000 BP on the west coast of Cyprus, artificial cranial modification became a widespread practice by 9000 BP at Khirokitia (see Jones 2008). This practice so far appears to be unparalleled on the mainland, and marks a clear expression of these peoples' identities, ideals and concerns, and is indicative of the new world they had created (see Meiklejohn *et al*. 1992 for potential data regarding cranial modification in the Near East). Through its re-design and manipulation the skull also becomes a mnemonic device, as if it were a form of material culture, and a beacon for identity in the Aceramic Neolithic world of Cyprus (Jones 2008, 94). Such embodied mnemonics appear to represent the ever-present traces of our pasts, and are one aspect of the transformation and transference of ideological components evident during this transitional period.

Death in the LAN however, is clearly a product of this EAN context. It was created within this particular 'interpretive horizon'. Notions of death and the dead were transported across space and moved to Cyprus, and through time into the historically situated 'plasma' of the LAN. From the collective depositions of (largely secondary) human and animal remains in the EAN, there is a shift in focus towards fully-articulated individual inhumations, for the most part, in primary contexts in the LAN. Certainly by 7000 BC at Khirokitia, burials are not only far more numerous, but there is a more uniform set of mortuary practices which appear particular to this Cypriot context. It is clear that the role of the body in the formation of identities is both central and fundamental, and as Merleau Ponty (1962) argued, the body is the medium through which people both perceive and understand the world. The body is also in this sense a form of material culture, something that can be modified and manipulated to attain a specific goal. The head, a particularly prominent feature in recognition of individuals, is perhaps an obvious focus for display, manipulation and expression, and furthermore, it has a long history of such engagements and association. The skull therefore has a crucial role as a mnemonic, acting internally and externally as a reminder of both current identities and shared pasts, and in doing so it transcends time and space. In the shift from the EAN to the LAN we also see the fabrication and monumentalisation of places for the dead: and the permanent experiential embellishment of mortuary locales in Cyprus. Khirokitia is not only constructed in a manner reminiscent of sites such as Hayonim cave and Ain Mallaha mimicking the spatial layout of ancient locales, but it solidifies and exaggerates them – see Belfer-Cohen (1988, 297); Valla (1988) and Boyd (2005) for details of Hayonim and Ain Mallaha. The structures themselves have become more robust in this Cypriot LAN context, and contain installations such as hearths, pillars, platforms, pits and 'thrones' no doubt associated with the mortuary rituals taking place at the site (Jones 2008, 71–75). Delimiting and defining the site further, a large stone wall with a complex entrance way was built, meeting the meander of the Maroni River as it encloses the hill (Jones 2008, 73).

Figure 10.6 View towards the sea, Mylouthkia (photo: P. Lutescu-Jones, 2004)

Both the changes and the continuities that are attested in the mortuary record for the EAN and LAN of Cyprus, are clearly founded upon the bedrock of social or shared memories, themselves formulated from the perception of shared pasts and commonality. Only out of such foundations can changes fuelled by creativity and imagination take place whilst maintaining a secure sense of the world. From the stable groundings of tradition, new ways of doing things emerge and old ways can be questioned and re-negotiated in the changing times. Cyprus presents us with a prime example of how ways of being are mobilised, and the dynamism inherent in these human worlds. Death can be seen here as a product of its temporality – as a construct it is particular in its form and enmeshed in the lives of those who ponder its meaning. It is all-permeating in its presence, and is something already known about, and always (re)negotiated.

Processes of transformation: material culture as body – body as material culture

Death changes us. It is a moment that lasts beyond itself. Like a stone tossed into a lake, it resonates and ripples. When we look at death in archaeology, we sometimes miss the dying. The anticipation, the realisation, the sinking in, and we skip to the final acts in the performance – the moment of deposition. We do this, because of what we can see. This is what is tangible, archaeologically speaking. We can excavate a grave, but not the tears shed around it. We don't know how often someone came and sat by it, or if it was soon forgotten in the day-to-day living of life. We can though, I would argue, see much more from those tangible remains than we might have considered.

Within the vast majority of burials of the LAN period in Cyprus 'grave-goods' have repeatedly been found. These items consist largely of stone vessels, ground stone implements, un-worked stone boulders, animal bones and shell necklaces; in the past, these items have been interpreted most frequently in terms of provisions or markers of sex, age or social status (see for example Niklasson 1991, and Le Brun 1993). Whilst these may be deemed valid avenues, providing explanation for the totality and nature of grave assemblages, they appear however to 'skip' the quintessential 'messiness' and fluidity of human existence. It is apparent that 'items' that are associated with an individual take on a 'new' potency or significance after they die. These need not be objects that were considered important or special in any way whilst the individual was alive. The little things that previously went unnoticed, come crashing into view, made perceptible through their entanglement in memory with these deceased individuals. The material world is transformed in our experiences of grief and mourning as we look to it for comfort, and it delivers a barrage of intrusive mnemonics. Grieving relatives often attribute greater significance to small and seemingly mundane objects, such as a shopping list they had written, a pen they had chewed, a mug they had used or their favourite chair. These objects somehow start to embody and emanate the 'essence' of the deceased, and they act fundamentally as a mnemonic device. The effect of these items may be positive, in that they may stimulate 'happy' memories and provide comfort through their ability to 'reanimate' the deceased and bring them into the present. Equally, for the same reasons, these items may be seen as undesirable, causing discomfort by inducing a form of involuntary remembrance. People therefore make choices during the grieving process; these choices allow them to move from one emotional state to another and manipulate their memories, creating a sense of control during a time when all control has been taken away (ultimately by the removal of an individual from their lives). Many people leave houses, rooms and furnishings unaltered after an individual dies, in order that their memory may be sustained, or perhaps because these places

and objects are simply too profound to touch. Others find this option the more painful, and are inclined to immediately alter and adapt these spaces to accommodate 'forgetting', and the emotional relief that can be found by removing (or staying away from) highly potent spaces and objects.

These objects and places are capable of taking on the identity of the deceased; things that people made, used, touched, loved or hated; places where they spent their days and nights, worked, walked and talked; all become part of the person through their association with them on a psychological level. Through their potency on an emotional level, these places and objects become 'active', and are no longer a 'passive prop' or backdrop. As the person dies, everything that can be attributed to them in itself becomes 'alive' and materialises in our conscious worlds. When people die they leave behind traces which can either be maintained in real physical terms to sustain memories, or removed immediately into the realm of memory to allow temporary 'forgetting'. This particular kind of forgetting is seldom born out of a desire to forget the deceased, but rather out of a desire to ease the grief felt by being continually reminded. The desire instead is to choose when to remember, and when to be free from remembering. Memory cannot be wiped clean and 'erased', but it can be manipulated both internally by the individual, and externally by others and by their surroundings.

Spaces and places are equally influential upon human memory. A house, a room or a favourite spot can, not only induce memories, but also be used to aid the conjuring of memories. A deceased person's presence can be felt in places where they always were, or places they were associated with, and this too can be manipulated. These places may allow a living individual to 'visualise' the deceased (the 'I can see them standing there now' scenario), which once again may be seen and experienced as either comforting or distressing. These spaces and places can also be created following a death in order to become appropriated formalised areas for commemoration, such as, for example, cemeteries. In such cases the deceased are removed from the realm of the living not only by their death, but also by their physical exclusion from the 'living space'. This allows the living to exercise control over visitation, and creates a socially and religiously sanctioned mode and place of grieving.

Interestingly, this seems to do little to destroy the potency of the places they were originally associated with; when the dead are remembered, they are seldom pictured as being in a graveyard. This is rather a place which can only be associated with the end of their life, and is thus potentially the least desirable setting in which to picture them. For the people living in Cyprus during the Neolithic, particularly anyone living around Khirokitia, the dead were present beneath their feet, layered, and sealed by plaster floors. The people who built and maintained these monumental structures, and performed these rites, may have walked, talked, worked and slept over the dead daily. For them, the dead were ever-present. This creates a completely different situation, where visiting the dead is replaced by always being accompanied by them. This allows for a different kind of 'remembering', because essentially it allows for a specific type of 'forgetting'. These are not 'empty spaces'; rather they 'held' accumulated memories of deceased individuals, generations of bodies accrued, making these so-called 'houses of the living' concurrently the 'houses of the dead'.

A 'tomb-stone' would not be necessary to mark the place of a grave; it was instead marked by living memory, and by the monumentalised site itself. Thus the physical and metaphysical boundaries of the living and the dead were obscured, and instead continuity could be created through the continual layering of bodies and memories. In this respect, whilst the body of an individual may have been 'biologically' dead, it was kept in the place of the living by keeping the memory very much 'alive'.

This may indicate, albeit quite simplistically, that the dead were being kept close by in body and in mind, alleviating the need for active commemoration.

Items placed with an individual in burial, most frequently classified as 'grave-goods', have proven to be a fruitful avenue of exploration for archaeologists. However, as suggested, the way in which these items are discussed is often limited to functional or structural analysis. If it is taken that these objects were potentially an extension of the individual, part of the subject or the body, then they take on a very different perspective. Firstly it 'makes sense' for them to be present; as part of the person they could not be separated from them, physically or mentally. Secondly, they may not only reflect the individual by association with them, but the body itself. The stone vessels occurring in burials during the Aceramic Neolithic can be described as enduring in their material quality. They are relatively robust, and also depict a relative uniformity in their designs. However, when they appear in burial contexts they are always intentionally broken, and in this respect seem to reflect the condition of the deceased. They are no longer functional and likewise the body is no longer functioning; the body and the object are equally 'broken'. These are not the only items that appear in burial context; shell necklaces at Khirokitia decorate an area of the body, which has its own special significance.

Boulders placed on the body perhaps serve a seemingly obvious purpose, pinning down the body and fixing its place, while an unfinished pendant that accompanied the infant at Mylouthkia appeared to reflect the incomplete life of the child (Croft & Peltenburg 2003, 42). This pendant may have been in the process of being made for the infant at the time he or she passed away, and its creation may have mirrored the growth of the child; materialising, changing shape, and then being fully formed, or in this case dying when the item was still 'incomplete'. Suffice it to say that the limits and boundaries that western thought has placed between body and object are not applicable to prehistoric people living and dealing with death millennia ago; the body and the objects created by that body may have been in many ways inseparable, and one could argue they remain so today.

The manipulation of the body, its movement, decomposition, wrapping and in the EAN dismantlement, likens the body to an artefact, something which is created and can be re-created and transformed, which is made portable and which can emanate 'ideals' as much as 'realities'. The preoccupation with the skull in mortuary practices, emphasises this ability to 'make bodies', and to control to a large extent the form and meaning of that body. In this sense not only is material culture a part of the body, which creates it, but the body is also a form of material culture itself, which can equally be made and unmade. Through the breaking up of bodies and stone vessels, the material bonds were unmade, and 'forgetting' was facilitated by the destruction of mnemonics (Buchli & Lucas 2001, 80). People had been manipulating dead bodies since the earliest sites on Cyprus, and for millennia before this on the mainland. By this stage they would have had a clear understanding of the dead body and the changes it goes through; their memories informed them of how precisely to deal with this, as well as substantially affecting their experiences of these processes. The manipulation of bones can be witnessed in the vast burial pit 'Structure 23' at Shillourokambos, where successive inhumations take place, mixed with animal bones. During the Aceramic Neolithic in Cyprus, there is evidence for the wrapping of bodies prior to their interment, which clearly involves their handling and movement. This means that we can witness peoples' engagement with the dead, touching the corpses and moving their parts around in a selective fashion.

The only burials, which seem less likely to be secondary, are those of infants (particularly at

Khirokitia), which are found fully articulated (for details of each grave see Niklasson 1991). Because of the nature of infant bones it seems unlikely that these were secondary, unless people preserved the body in another way, ensuring that the smaller and more fragile remains were not lost. Hence it seems that experience and knowledge gained from millennia of handling, transporting, dismantling and manipulating the dead had endowed people with an intimate understanding of the potential state of bodies after death. Firstly, Knowledge of the fragility of infant remains may have in turn made it undesirable to perform mortuary rites over long periods, and may explain the tendency for the infant remains to be discovered in primary contexts. Secondly, Infants, having spent only a short period in the world of the living, may have been connected to fewer people, and their remains may have been treated and viewed by a smaller number of mourners over a shorter period, reflecting their shorter time on earth. In Cyprus however, infants are in most respects treated in the same way as adults; it is notable at Khirokitia that where successive infants have been interred within a tholos, an adult is often buried with them. In the same way, at Tenta, where infants are buried inside the structures, the remains of adults are propped-up around their exterior walls and the site enclosure (Niklasson 1991, 175). This emphasises the potential for these adults being 'guardians' in some sense, as well as their link to the infants themselves. The potential practices that surround these dead bodies can be imagined; they may have been preserved, mummified through drying, or wrapped from their initial death. Whilst this may seem to be an archaeological 'unknown', something for which we do not have specific data, the prospects of understanding these practices are not so bleak.

There is a wealth of evidence to suggest secondary rites (at EAN Mylouthkia and Shillourokambos), wrapping (at EAN Shillourokambos and LAN Khirokitia) selective inhumation of body parts (at EAN Mylouthkia and Shillourokambos) as well as fully articulated inhumations (most frequently at LAN Khirokitia and Tenta). The interaction that this entails between the living and the dead would become a crucial part of people's embodied memories. Furthermore, this prolonged interaction and physical contact actually enabled and facilitated memory through people being able to access and manipulate the dead, and physically engage with them on a sensory level. By ensuring that the dead were 'dealt with' in the proper way, and that they were prepared for the transformation and journey that they had embarked upon, the living were free to remember them as they were when they were living, and picture them as being in the 'right place'. The mortuary arena was used in this way to maintain and (re) create memories of the deceased. This notion is supported by Cannon's (2002, 192) work, for example, in which he argues that creation of a specific place for the dead causes the perpetuation of their memory in the minds of the living. This dismantling of the dead is also particularly interesting with regard to 'forgetting' and 'remembering'. The process of decomposition may therefore have marked the beginnings of their transition from one realm to another, from the living to the ancestral world, and their subsequent dismantling may in part have reflected the 'un-making' of their physical existence in the world of the living in order to facilitate their transcendence to the next. Hutchinson and Aragan's (2002, 31) constructs are interesting here; they present death as a process, and suggest that archaeologists only see a 'snap-shot' of a broader 'death-cycle'. A key problem in interpretation has thus been the tendency to see the excavated remains as representing the final, complete ritual act. This point seems particularly relevant in relation to Shillourokambos, where the remains appear to be laid out as if still in the process of being manipulated. Hutchinson and Aragan (2002, 31) further suggest that this continual movement of the dead keeps the spaces and places of

death ‘in motion’, as well as perpetuating the notion of transformation and transcendence rather than a finite end.

The data from the Aceramic Neolithic of Cyprus therefore not only demonstrates people’s physical involvement with dead bodies and their parts, but also something of the way in which they experienced and understood these bodies. Clearly this was potentially very different to the way we may explain and understand the body now; at the risk of seeming banal, however, it is important to reiterate that whilst there may be some basic universal bodily sensations, limitations, and experiences, their interpretation is ultimately fluid. It is also to be remembered that our understanding of the body in the western world today is based in part on information derived from medicine, biology, religion and the media (see Lyon & Barbalet 1994, 50–51). We thus know that we have organs, blood, skin, hair; when we die we ‘decompose’, since all of these things involve ‘chemicals’ and ‘tissues’. Further, we also have set reasons why people die (as a result of medical or accidental factors, or even murder) as well as a set concept of the moment of death itself. Yet, when we discuss emotion, we refer back to this biological body, which changes to become an embodiment of ‘us’, ‘our body’ as something we live in. Thus, when people express emotions they can explain the sensations as being felt through their body, some of the most familiar being ‘broken hearted’, ‘gut feeling’, ‘pangs of guilt’ or ‘butterflies’ in the stomach. In this sense, then, the metaphorical expression of emotion stems from our lived bodies, the sensation of ‘being-in-our-bodies’. This is in line with Lyon and Barbalet (1994, 52), who distinguish two key notions of the body in the modern world which underpin our perceptions of it; firstly, the ‘consumerist body’, which is objectified and subjected to treatment, and secondly the body as a ‘terrain of medical practice’.

The body is a potent source of mnemonics, particularly through sensory experience. In this context Hamilakis (1998, 117) notes the phenomenon of ‘performative ceremonies which generate bodily sensory and emotional experiences, resulting in habitual memory being sedimented in the body’. Commenting on this, Alcock (2002, 28) suggests that these ‘incorporated practices’ that form an important part of the social act of commemoration, are one of the most archaeologically ‘visible’ aspects of memory. Essentially, our bodies, and the way we can feel and understand them, are a product of our explanations for their form and their nature. Thus, when looking back 10,000 years, we are studying people whose understanding is likely to be both familiar and unfamiliar. We have the same physiology, and we potentially suffer and delight in similar sensations. The interpretation, and the ways that these emotions were dealt with, may have been very different to our own, pain being a prime example of a sensation which we may now consider to be unacceptable, avoidable and undesirable (for the most part), which may have been considered necessary, important and indeed, desirable. The experience of pain, however it is understood, can also have a dramatic impact upon our experience and perception of our own bodies, uniting or dividing us from our ‘selves’ (Jackson 2004). Emotion is in this sense fundamentally enmeshed with memory, and for this reason emotionally charged memories often appear to be the most lasting. It is perhaps here that the rather more major question of how much we can ever understand the experience of ‘others’ comes into play. If indeed experience and its ensuing intake into our consciousness is regarded as being contextually specific, affected by culture, social norms, age, sex, religion, then it would follow that no individual would be capable of truly understanding another that did not precisely mirror themselves. I would suggest, however, in line with Rapport (2001), that this is not the case, in that commonalities exist which afford our understanding of

one another.

The boundaries between our bodies and the world are clearly fluid, and in the processes of dying and death become blurred. The existence of deceased individuals is secured in memory – through mnemonics, both intentionally memorialised and the unintentional 'invasions'. Moreover, it is through both maintenance and destruction that the past and the people in it are ever-present in their traces.

Conclusions: creativity, imagination and the fallacy of freedom?

In order to understand what has been described as the 'idiosyncratic' developments in the Early and Later Aceramic Neolithic of Cyprus I suggest there are a number of factors which not only need to be considered but 'synthesised'. Specifically, I emphasise here the roles of creativity and imagination, memory and movement in the particular manifestation of this Neolithic world. The distinctiveness and particularities of the Cypriot Neolithic stem from the inherent creativity and imagination of the human beings whose consciousness (re)created and made their world manifest in a 'new' place – not only from the desire to create a replica, but the inevitability of invention. Faced with a new context in which to envisage, a new location, materials and contacts, people were provided not only with constraints but also opportunities to remake a world and reinvent not only their lives but also their deaths. In this way creativity and imagination play a crucial role in the development of might now be considered digressions from the mainland Neolithic norm (Jones 2008, chapter 5). By 'imagination' I refer specifically to the phenomena as presented by Sartre as 'the possibility of positing a thesis of irreality' (2004, 182). Whilst there may have been many 'givens' in this Neolithic world, there was also the continuous possibility of escaping from such constraints, standing back and going beyond it through free thought (Sartre 2004, 184). As Sartre states:

> Imagination is not an empirical power added to consciousness, but is the whole of consciousness as it realizes its freedom; every concrete and real situation of consciousness in the world is pregnant with the imaginary in so far as it is always presented as a surpassing of the real. (2004, 186)

With this transcendental freedom in mind, it is perhaps not surprising that the world (re)created on Cyprus beginning in the Epipalaeolithic is distinctive and indeed by the LAN remarkably different from its contemporaries elsewhere. This capacity to imagine is one factor which can be clearly seen in the mortuary practices throughout this period. Death provides not only a context, but perhaps also an incentive and motivation to imagine. Combined with memory, and the fluctuating bank of understanding it provides, (re) negotiations of life and death are not only possible but also desirable when (re)establishing not only home, but self and 'other'.

Simone de Beauvoir's ideas of 'situated freedom' are highly relevant to this discussion. Whilst imagination and through it creativity may be seen as inherent capacities, there is also constraint to consider. It has often been the island status of Cyprus and its geographical physicality which has been regarded as the 'constraint' (Jones 2008, chapter 5). However it may be argued that for a seafaring community clearly proficient in navigating the eastern Mediterranean basin that the sea was not an obstacle, but rather a means of connection. In this case perhaps the more significant 'constraint' is that of others, and the shared traditions and habitual practices which are performed by the group. Such ideas may be almost cemented in memory and become so fundamental to understandings of the world

that they rarely, if ever, shift. Whilst they are not immovable obstacles, they are the foundations or bedrock of a community which reside in shared notions of how the world 'is'. As such they require group acknowledgement and effort to either persist or to alter creating a 'constrained consciousness' which co-exists with the potential freedom presented by imagination and creativity. Beauvoir highlighted the importance of our interrelationships with others, and presented them as being both potential liberators and obstacles to the freedom of the individual (Andrew 2003, 27). Hence the most significant 'constraints' faced by people in the Neolithic were likely to have been similar to those faced today. Whilst individuals had the potential to push ideas and perceptions beyond the archaic, beyond the 'norm', they also had 'others' to negotiate with and relate to and simultaneously restrictions of their own to contend with – their minds as permeated with memories and ideals as our own. In mobilising the world as they knew it, an opportunity to re-invent presented itself and was taken-up, the result was a distinctly Cypriot Neolithic life and death, both relatable and standing apart from its contemporaries.

In conclusion, the activities of the 'everyday', the mundane yet ritualised habits and chores in which people engage, steer their perceptions of the world and in turn their memories of it. Involvement in particular activities is never entirely meaningless, and the seemingly mundane is thus crucial to the maintenance of people's worlds. As such, activities remind people of who they *are*, who they *were*, who they *want to be*. This chapter has aimed to demonstrate that people indeed *carry with them* a *world* consisting of all that they know and have experienced; consequently, the movement of a world is far more than the movement of a Neolithic package, or even simply the migration of people. The world that people inhabit has to be picked-up and transported with them, composed and made mobile. In this process 'selection' is the key to our archaeological understanding. As archaeologists we can see the traces of this selective and creative process; not of course in its entirety, but its remains. On the practical and logistical side this meant that people had to quite literally move themselves and the living-beings they shared this world with to a 'new' location. But perhaps more fundamentally, on an emotional and spiritual level, their ideologies also went with them. Their memories of where they had been, their experiences and ultimately their *way of being*, was thus elevated and transported across space, and re-situated on Cyprus. Throughout the Aceramic Neolithic we have seen how people shaped, embellished and monumentalised aspects of their world, how they have engaged with and through this interactive process and built-up associations and meanings which endured the millennia. The persistence of their 'way of being' thus relates directly to the *persistence of memory*. As people shaped their landscape in a physical sense they moved the earth to make it fit their world, as well as being influenced by it. Furthermore, they shaped their world in a cosmological sense, to make sense of life and death. They created and maintained, performed and recreated ideas about the world they lived in and the meaning of it all.

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11

Ritual and religion in Neolithic Crete?

Alan Peatfield

The tendency to view Neolithic Crete through the filter of Minoan Bronze Age sophistication means that the Neolithic material is often read as a precursor to Minoan civilization rather than understood in its own right. This is especially true in the interpretation of religion, where early studies viewed Neolithic Cretan religion as replete with goddesses and elaborate rituals. By contrast this chapter addresses the Neolithic religious material within its own context. Essential is the fact that for most of the Neolithic period (approximately 7000 to 3000 cal. BC) Knossos was the only settlement on the island, and was relatively isolated from cultural developments elsewhere in the Eastern Mediterranean. Although only 1% of Neolithic Knossos has been excavated, the surviving evidence, fragmentary figurines, suggests religious life was focused on the simplicity of the household rather than the broader community. The change comes in the Final Neolithic period, wherein there is a massive dispersal of settlements across the island, indicating population growth perhaps supported by an influx of new settlers. Religiously this manifests in a enriched diversification of ritual material culture, including cave shrines and burial sites, communal feasting at population power centres, and perhaps also the beginnings of a ritual landscape.

Religion? What religion?

The question mark in the title may seem odd, but the theme of this chapter justifies its use. The wording of the title refers to assumptions concerning how the issue of religion in Neolithic Crete is approached. In comparison to other Mediterranean islands (and to contemporary East Mediterranean mainland cultures) there is relatively little evidence for religion in Neolithic Crete, a period that covers 3–4 millennia. In brief: the first permanent human-settlement on the island dates to c. 7000 cal BC. There is, however, evidence for earlier occasional visits by nomadic hunters. Occupation appears to be at first

concentrated at one particular site – Knossos. Over the centuries, settlement over the remainder of Crete appears to have developed slowly, and on a small scale (Watrous 1994, 700). The nature of the evidence is mainly domestic, indicative of subsistence strategies, rather than of anything that is suggestive of symbolic behaviour. This remains the status quo, for much of the long Neolithic period. Then, at c. 3500 cal BC Crete enters the transition towards the beginning of the Bronze Age (which happens at c. 3000 cal BC). This period is referred to as the Final Neolithic. The dramatic increase in evidence suggests a significant rise in population, spreading from Knossos over the remainder of Crete. The more varied nature of this material also suggests an increase in cultural complexity. The majority of the evidence for what may be called 'religion' is associated with this final period of cultural transition, as represented by figurines, mortuary practices and ceremonial feasting. The point to emphasise is that there are few indications of religious activity on Crete until the Late-Final Neolithic period. This is surprising, especially given the evidence for religion, at least at a household level, in mainland Greece at this same period.

The limitations of the available evidence poses considerable difficulties for establishing interprative frameworks and raises a number of important questions: why is there so little evidence of religion for the earlier Cretan Neolithic? What does is it reveal about the role of religion in social development, both on Crete, and more broadly as a cultural paradigm? What are the reasons for the changes of the Final Neolithic? Are inferences about religion in the Final Neolithic period applicable to the Cretan Neolithic as a whole?

This also has implications for the understanding of the developmental process of prehistoric religion. Much of the interest in Neolithic religion in the Mediterrranean and Near East has focused on spectacular monumental discoveries, such as the early (c. 3500 cal BC) temples on Malta. There are also interpretations that advocate the emergence of religion, or at least the emergence of organised community religion (shared beliefs and rituals, manifested in images and artefacts), as co-phenomenal with the Neolithic Revolution and its effects on the development of social complexity and hierarchy, as argued for Çatalhöyük (Hodder 2010). The association of monumentality with religion has received further impetus with the discoveries at Göbekli Tepe in Turkey. The enormous structures at the site, whose construction required considerable social co-operation and organisation, appear to predate the Neolithic Revolution, dating to c. 9000 cal BC (Schmidt 2010; Hodder & Meskell 2010).

There is a puzzle, therefore, in terms of why Neolithic Crete, boasting one of the longest-lived continually occupied settlements in the world, at Knossos, is so lacking in evidence for religious activity. What insight does this afford into the association between settlement and religion?

Defining religion

Archaeological approaches to religion tend to draw heavily from anthropology. This was most explicit in Renfrew's use of anthropological definitions of religion in his publication of Phylakopi in the *Archaeology of Cult* (Renfrew 1985, 12). There he chose between opposed definitions posited by Spiro (1966) and Geertz (1966). Spiro's definition – religion is 'culturally …. interaction with culturally postulated superhuman beings' – privileges beliefs in deities, while Geertz's more laborious definition focusing on cultural systems might be seen as a broadly existential approach. Theistic (deity-centred) definitions of religion, like Spiro's, have a long history in anthropology, going back to early theorists such as Edward Tylor (1871). Indeed, one contemporary anthropologist refers to modern theistic-

approaches as ‘neo-Tylorian’ (Tambiah 1985, 129). They also, consciously or unconsciously, model religion within the ancient Classical to Judaeo-Christian European experience. The broader problem common to all ‘definitions of religion’ is that, in their attempt to be all-encompassing, they can never quite cope with the immense diversity of phenomena that human beings and cultures call religion. The most obvious example is that theistic definitions of religion would exclude Buddhism as a religion because it is explicitly non-theistic. Consequently, more recent archaeological studies of religion that have addressed methodology and theory, as for example the volume of papers on Çatalhöyük (Hodder 2010), have avoided over-arching definitions in favour of a more cautious discursive approach to religious phenomenology.

Elsewhere, the author has preferred to take a more performative approach to religion (Peatfield 2001), in that it places more focus on the human experience and physical expression of the spiritual impulse, rather than intellectual beliefs in deities (superhuman beings, spirits, etc.). In terms of prehistoric cultures, religion is itself a controversial term. Some scholars would prefer to use the term ‘religion’ specifically and only for the institutionalised ritual and belief systems embedded in complex cultures (Hodder 2010). The problem with this is that it leaves no appropriate terms for the spiritual expressions, the religions, of non-complex cultures.

It is perhaps preferable, therefore, to use the broader term ‘spirituality’. An archaeology of spirituality allows for more encompassing approaches to the variety of human religious (or spiritual) experience, especially those that lie beyond the parameters of western theistic ideas (Rountree *et al*. 2012). Nevertheless, for the limited purposes of this chapter, the conventional terms religion and religious are employed.

Interestingly, Buddhism itself offers an approach to religion which accords with modern neuro-physiological research. The human capacity for deep self-awareness creates in the mind an opposition between the Self and Other. Out of this dualistic impulse arise the many nuances of relationships, which, when combined with human imagination and abstract thought, include the oppositions of material and immaterial, body and spirit, natural and supernatural, human and superhuman, this world and the Other (or others). The descriptions are many (and only approximate); the principle is the same.

Although some archaeologists and anthropologists are hostile to this concept of existential dualism, all that is meant here is that different cultures mediate dualism in different ways. Some cultures emphasise it by creating barriers to separate them from the Other; others diminish it by deliberately engaging with and blurring the boundaries between themselves and the Other. Buddhism, of course, regards dualism as an illusion, and seeks to eradicate it.

The richness of human spirituality, both individual and cultural, arises out the attempt to make sense out of that which transcends everyday material sensory experience. Rituals and beliefs, religions, spiritual systems, philosophies all seek to explain, to systematise, to categorise, to celebrate, to manifest, to engage, to make safe, and otherwise variously deal with whatever it is that lies beyond the Self. One reason why archaeologists and anthropologists find defining religion so difficult is because the phenomenon is of its very nature inexplicable.

The relationship between prehistoric art and the origins of religion is already a well-explored field of study (Mithen 1996, 171–210; Lewis-Williams 2004). What makes it interesting is that art expresses and makes manifest the conceptual imaginings of the human mind. Out of this process are created the artefacts, the material culture that allows archaeology to study ancient religion.

In spite of the rich diversity of religious phenomena referred to above, not all cultures express their spiritual impulses equally richly. Indeed, one of the questions that may be asked of prehistoric religion is: why do some cultures appear so poor in material expressions of religion while others are so well off? In answer, one may posit the suggestion that there is an association with social development, i.e. that more complex societies have a richer and more diverse range of artefacts which reveal their religion, whereas poorer or simpler societies preserve less evidence. It would be controversial to suggest that this is a universal process in the development of religion, but as a proposition it may be pertinent to the theme of this chapter. As already stated, what archaeology perceives as evidence for religion in the Cretan Neolithic is poor – a few figurines, some human burials, and limited evidence of ceremonial feasting. The evidential value for religion of these cultural traits will be addressed in the following paragraphs.

The Minoan shadow

The relative paucity of religious evidence for the Cretan Neolithic may result from the vagaries and accidents of archaeological discoveries. It is contentious to Create interpretations from negative evidence, especially as profound new discoveries continue to be made on Crete. Nevertheless, all interpretation of the culture of the Cretan Neolithic suffers from comparison with the rich complexity of the later Minoan Bronze Age civilisation. This is true for almost all Cretan archaeology – even to the degree that all subsequent periods (Iron-Age, Greek, Hellenistic, and Roman) are lumped together and referred to as Post-Minoan. Although matters are not quite so bad for Neolithic archaeology on Crete, the dominance of Minoan archaeology has two obvious consequences. The first is that there is a tendency to view Neolithic material through a Minoan lens. Value is imparted only insofar as that material is considered to prefigure an associated aspect of the later Minoan. Within the history of Cretan scholarship, this interpretation through hindsight has been most marked for the interpretation of religion.

The second consequence of the Minoan dominance is a practical one. The inevitable and justified desire to preserve the rich and complex Minoan remains, especially architectural elements, has meant that there is often an extremely partial and limited view of the Neolithic remains. This is particularly true of Knossos. Underneath the remains of the Bronze Age palace of Knossos is a multi-layered “tell” comprised of Neolithic deposits, in places 6 m in depth (Fig. 11.1). This represents some 3–4 millennia of Neolithic occupation, before the Bronze Age even began, at c. 3000 cal BC. Stages of rebuilding the palace during its later history (notably the large-scale levelling and reconstruction which marks the Neopalatial phase, commencing c. 1700 cal BC), means that in some places on the Knossos hill, especially in the centre, monumental Bronze Age walls are laid directly onto Neolithic strata. Consequently, excavating Neolithic Knossos is the archaeological equivalent of “key-hole surgery”. In other words, it presents a view that is very localised and very partial. It has been estimated that approximately 1% of the site has been explored (Broodbank 1992, 59–60). This area has been enlarged by more recent recent excavations (Manteli & Evely 1995; Efstratiou *et al*. 2013, 1–5), but only by very small amounts. Consequently, the validity of any reconstruction of activity at the site has been rightly questioned (Whitelaw 1992, 227). As has already been observed, Knossos is the first and main occupation site of Neolithic Crete. Such a partial view of the remains severely limits our understanding of its organisation and concomitant social complexity, including religious activity. Any discussion of

Cretan Neolithic religion should recognise and articulate that as an interpretative factor.

The shadow of the Minoan remains does mean that the Neolithic period on Crete has been rarely considered outside the Minoan context – at least until recently. The explicit aim of the 2006 Sheffield Round Table on Neolithic Crete (Isaakidou & Tomkins 2008) was to discuss that Neolithic evidence, within its own context. This was neatly expressed in the title of the proceedings: *Escaping the Labyrinth*! Although some of the papers were avowedly controversial, and there was not always commonality of views among the participants, this volume must be acknowledged as setting the parameters for future study of the Cretan Neolithic.

First settlement

The first permanent human-settlement on the island appears to have occurred at c. 7000 cal BC. This is confirmed by a radiocarbon date (Perles 2001; discussed Broodbank 2008, 274; Facorellis & Maniatis 2013). Sometimes termed a 'colonisation', it has been argued that this group of settlers came, not quite en masse, but certainly in significant numbers. This suggests some form of pre-existing community. They brought with them their own domestic animals (including pigs, cattle, sheep and goats), which were not part of the endemic fauna. They established themselves as a farming community, on a small hill 7–8 km south of the north coast, in a well-watered valley. This is the site of Knossos.

That such a group (or groups) were so prepared suggests purposeful colonising journeys to a place that was already known to them. In other words, they already had knowledge of their destination. Scholars writing about the process of the Neolithic 'colonisation' of Crete have long speculated that this prior knowledge arose from sea-going migratory hunting patterns within the eastern Mediterranean area (Broodbank & Strasser 1991). The presence of pygmy hippopotamus and elephant on Crete would have attracted hunters (Ripoll 2013; Horwitz 2013), as they did on Cyprus (Simmons 1999). Indeed, it is argued that these hunters contributed to the extinction of such animals on the island (Lax & Strasser 1992, 214–215).

Figure 11.1 Knossos hill from the East. Neolithic deposits underlie all the visible Minoan remains, up to 6 m deep (photo: author)

On Crete, the presence of Mesolithic, or even Epipalaeolithic, hunters moved from a speculative idea to an archaeological reality in 2008, when the remains of stone tools were found in the Plakias Gorge on the south coast of the island (Strasser *et al*. 2010; 2011). The suggested date of the earliest tools (c. 160,000 cal BC) in this deposit indicates that Crete and its resources were well-known to humans long before Neolithic farming communities arrived on the island.

It remains to be seen whether such early remains will be found elsewhere on Crete. This would be particularly significant for the north coast and eastern parts of the island, not just for the location of Knossos, but also for the suggested origin of the first settlers. Their point of origin is consistently argued as being from Southern Anatolia (Asia Minor, modern Turkey). If this is so, their journey to Crete would have been greatly facilitated by their ability to 'island hop' across the Dodekanese islands which link Crete to the Asia Minor coast, rather than having to navigate large expanses of open sea.

This cultural argument for an Anatolian origin of these first settlers on Crete has, however, been complicated by recent DNA studies, which suggest that they may have had a European origin (Hughey 2013). Nevertheless, until this DNA evidence has been fully correlated, the theory that the first settlers on Crete may have orginated in Anatolia also makes sense culturally. Agriculture, the hallmark of the Neolithic Revolution, originated in that area around c. 8000 cal BC, and was well established by c. 7000 cal BC when breakaway groups left for Crete. In other words, the settlers brought with them their own package of subsistence strategies – arable farming and animal husbandry.

The idea that they brought with them the appropriate cultural knowledge, techniques, materials, and experience, for survival and subsistence does, however, give rise to a question pertinent to this chapter. Did they also bring with them their religious ideas and practices?

Although, as shall be further discussed below, there are clay figurines and indications of comparable mortuary practices, there is nothing like the animal (zoomorphic) images or symbolic installations with bulls' heads and horns which reveal the emergence of complex spiritual ideas and behaviours at sites such as Çatalhöyük and Gobekli Tepe, or indeed later Crete. Comparison with Çatalhöyük does, however, raise an issue in the models of interpretation. When Mellaart found the horns and bucrania set into the walls of the Çatalhöyük houses, he found inspiration for the religious interpretation of the bull in Minoan Crete (Mellart 1967). Clearly influenced by Arthur Evans's articulation of the bull as a key element in Minoan ritual (especially sacrificial) and religious imagery, Mellaart applied similar ideas to the Çatalhöyük bulls, with little regard for the chronological and geographical separation between Bronze Age Crete and Neolithic Anatolia. Analysis from the current excavations of Çatalhöyük has produced a far more nuanced understanding of the bull and other zoomorphic imagery as local-symbolic and ritual expressions of cultural and ecological interaction (Hodder 2006; 2010). Unlike the Minoan bulls, which are domestic, the 'bulls' at Çatalhöyük are more likely to represent aurochs and/or wild cattle.

Nevertheless, one might speculate whether the later religious importance of the Minoan bull owed something to Neolithic ideas and rituals. The problem with such speculation is that without evidence of a sustained iconographic tradition throughout the Cretan Neolithic period, it remains impossible to prove. In regard to this, however, questions do arise concerning the interrelationship between religious/symbolic iconography and cultural complexity. Is the absence of bull iconography in the Cretan Neolithic simply a consequence of the lack of an artistic process, or does it indicate the absolute absence of such ideas and rituals? The former possibility might explain why, when Bronze Age Crete was culturally sophisticated enough to sustain an iconographic tradition, images of the bull, including ritual vessels in the shape of bulls (rhyta or libation vessels) are ubiquitous. This does suggest that the symbolic and religious associations of the bull were already fully-formed, and not just contemporary.

Cretan Neolithic chronology

The idea that the first Neolithic settlers on Crete may have taken a step backward in the material expression of whatever religious ideas and practices they may have brought with them from their homeland, although speculative, is not entirely improbable. When Evans and, later, Furness, developed their chronological system for the Cretan Neolithic (Furness 1953), they followed the ceramic-based divisions that Evans had developed for Minoan chronology – a tripartite scheme of Early, Middle, and Late. This was book-ended by two phases, a Final Neolithic which expressed the transition to the Bronze Age, and at the very beginning, an Aceramic Period. This is as much a descriptive as chronological term in that there are no potsherds to be found in the earliest Neolithic layers at Knossos. Given that ceramic technology was by this time already well-developed in the Near Eastern homeland, the lack of pottery in these strata at Knossos is surprising, and does suggest a step-backward in technological and cultural sophistication. If this is indeed so, then the idea of a comparable retardation in the expression of religious ideas becomes at least plausible.

The Evans/Furness dating scheme has dominated not just the chronological understanding of Neolithic Crete but, to some degree, also the interpretation of its historical development. When John Evans conducted his excavations at Knossos, he refined, but still essentially adhered to the pre-existing framework. His narrative of the development of the Knossos settlement, with its simple, small-roomed

houses, followed the parameters set-out in the Evans/Furness chronological divisions and its implied historical parameters (Evans 1994; Furness 1953).

Recently, however, Tomkins has cogently argued for a reassessment of Cretan Neolithic chronology (Tomkins 2008). His replacement schema is increasingly becoming the accepted frame-of-reference. Tomkins makes several points in particular which have implications for the understanding of Cretan Neolithic religion: first, the Evans/Furness chronology noted above was derived from, and thus emphasised, the Knossos-centric perspective on the entire Cretan Neolithic. This in turn made it difficult to identify and categorise the already limited evidence of Neolithic activity beyond Knossos. Furthermore, it was a different chronological scheme from that used for the interpretation of Neolithic Greece and Anatolia. This tended, therefore, to reinforce the idea of Knossos/Crete as being isolated from contact with the remainder of the Eastern Mediterranean, and in particular, Mainland Greece.

In broadly accepting Tomkins' new chronological framework, the papers from the Sheffield symposium opened the way to identifying a broader spectrum of Neolithic activity on Crete away from Knossos (Isaakidou & Tomkins 2008). This includes the specialised sourcing of raw materials over the island (notably stone axes: Strasser 2008). Nevertheless, despite this softening of the Knossos-centric view, for the time being, the essential picture of settlement over the island remains unchanged, i.e. from its establishment in the Aceramic/Initial Neolithic period (c. 7000 cal BC), Knossos was the the major settlement on the island for at least 3 millenia. Subsequently, in the Late Neolithic (Evans/Furness terminology) period, at c. 3500 cal BC, settlement dispersed dramatically over the remainder of the island following the exploration and exploitation of the landscape resources. Conventionally it has been assumed that this away-from-Knossos settlement focused on the use of caves as habitations, and as Late Neolithic gave way to Final Neolithic, other settlements emerged, significantly at major sites that would eventually evolve into Bronze Age political and palatial centres, such as Phaistos (Todara & Di Tonto 2008). Recently, however, Tomkins has challenged this notion that the Neolithic remains from caves, often sparse and hidden in the deepest parts of the caves, indicate domestic use (Tomkins 2013, 61–63; he argues that it suggests episodic ritualisation, an interesting and plausible idea (Tomkins 2013, 65–69).

Alongside this population increase and demographic expansion of the Late and Final Neolithic phases, there is also evidence for a deepening of cultural complexity. This does, of course, have a bearing on the evidence for religion as manifested in clay figurines and evidenced by mortuary customs. But, before progressing to a closer discussion of that evidence, it is necessary to consider the historical factors that lie behind such an expansion and change, especially in relation to the Final Neolithic.

The end of the Neolithic period and the beginning of the Bronze Age is characterised by the appearance of bronze metallurgy on Crete. Hypotheses regarding the cultural origins of this introduction have considered whether this was a gradual or sudden introduction, and whether it was essentially an indigenous Cretan development, using imported technology, or whether that technology was brought in by another group of settlers – another wave of immigration. Essentially, this recalls the familiar debate between exponents of indigenous cultural change versus diffusionist theorists of cultural change via population change (be they immigrants or invaders). Nowicki's identification of Late Neolithic and Final Neolithic defensive settlements in the mountain and coastal areas of Crete does provide strong evidence for an influx of people into Crete at this time which may, or may not,

have been peaceful (Nowicki 2002; 2008). More strongly, he also demonstrates that this represents a broader change in settlement patterns not just on Crete, but throughout the islands of the Aegean.

Significantly, Nowicki also uses a loaded cultural chronological term which has, up till now, been avoided by Cretan archaeologists – he parenthesises the Final Neolithic as a *Chalcolithic* period (Nowicki 2002, 11–15; 2008, 201–204). This has the effect, also endorsed by other contributors to the Sheffield conference, of redefining the Final Neolithic period as being perhaps more properly part of the Bronze Age, rather than being of the Neolithic. Given that the majority of the evidence for Neolithic religion on Crete is associated with this Final Neolithic/Chalcolithic period, it raises the question of whether it is truly representative of the religious ideas of the Neolithic population of Crete.

Human (anthropomorphic) figurines

The association of figurines with religion has a long history in archaeology. In terms of Cretan archaeology, this reaches back at least to the time of Arthur Evans (Evans 1921). The obvious reason for this was the persistent interpretation of figurines as images of divinities. Although, as shall be discussed further, this monolithic assumption has been mostly dismantled, and figurines are rightly interpreted as fulfilling a variety of functions, those functions, such as charms, amulets, spirit helpers, are still well within the broader parameters of what may be defined as spiritual or religious. Even in cases where they functioned as toys, they may still be considered as material manifestations of conceptualisations of what is human, or animal, or whatever (Bailey 2005). As such, they materially express symbolic thought.

Study of Cretan Neolithic figurines has very much concentrated on the anthropomorphic examples, which creates certain problems for the interpretation of their meaning, as will be discussed below. Probably the most comprehensive study of the material to date is that by Peter Ucko (Ucko 1968). This study, comparing Cretan, Egyptian, Greek and Near Eastern figurines, has not yet been superceded in terms of its detailed records and analysis. From Crete, primarily Knossos, Ucko catalogued 103 figurines, almost all of which were fragments. His catalogue is based mainly on his own observations (Ucko 1968, 203–301), but he also included some figurines reported from excavation notebooks, which were untraceable. Mina's more recent work uses a sample of 110 figurines, and references other figurines mentioned in notebooks from both Arthur Evans and John Evans (Mina 2008, 118–119). The figurines occur throughout the whole duration of the Cretan Neolithic, from Aceramic/Initial to Final, although the majority are from the later period. Part of the problem for developing a clear chronological scheme for the figurines stems from the fact that the majority derive from poorly defined or unclear contexts, with the majority recovered from secondary habitation deposits, i.e. habitation debris.

The importance of Ucko's (1968) work does not, however, lie only in its detail. Its main significance relates to the manner in which it completely broke with previous unitary interpretations of figurines, and established the parameters for all later thinking on the subject. They follow him in attributing multiple meanings and uses to the objects. Prior to Ucko, figurine studies tended to create conventional typological analyses. Ucko, for example, observes that Weinberg (Weinberg 1951) created a typology based on leg positions (Ucko 1968, 302), and that Hutchinson (Hutchinson 1938) was more interested in the position of the arms (Ucko 1968, 303). He further exposes the partiality of other analyses in their, often contradictory, attribution of figurines to 'schematic' or 'naturalistic'

categories (Ucko 1968, 305–307).

The majority of Cretan Neolithic figurines are made from clay, burnished and fired. The colour of the clay ranges from pink to black, mostly shades of grey, as is true of Neolithic ceramics in general. There are a few figurines of stone: marble and polished greenstone. There are individual figurines made from bone and shell. Bearing in mind that these are mostly fragments, the preserved sizes of the objects can be as small as 2 cm. One of the largest intact figurines comprises a clay violin-shaped figurine 9 cm in height (Fig. 11.2). Also, of the same preserved height is, perhaps, the finest of all Cretan Neolithic figurines – a standing-male figurine made of polished marble (Fig. 11.3). It lacks its head, which would have added perhaps another centimetre or more to its height, but its marvel lies in the sensitive carving of its anatomical features, especially the musculature curves of the leg. Perhaps even more remarkable is the fact that this is one of the earliest of the figurines, found in an Early Neolithic deposit at Knossos. This figure holds its arms to its chest, which is probably the gesture indicated on other more schematic figures which preserve their arms. It may be possible to attribute some religious significance to this gesture, given its common occurrence among later Minoan figurines, especially those from peak-sanctuaries (Peatfield 1990, 118; Morris & Peatfield 2004; Peatfield & Morris 2012, 237–241, 45–50), but it may also be that Neolithic sculptors found that making figurines with outstretched arms was simply too difficult, and prone to breakage. Figurine fragments that preserve the legs generally reveal 3 main postures: standing, sitting, and kneeling or squatting. Often it is too difficult to be certain about what is being represented.

The most important factor to observe about the size of the figurines is that they are all easily hand-held. That tactile quality might also explain the ambiguous gestures and postures. With the limbs contracted towards the torso, the figurines do lend themselves to manipulation without fear of breakage.

Many of the clay figurines are decorated in some manner. The clay is often burnished, and they are incised with a variety of curvilinear and zigzag designs. The incisions are highlighted with white clay rubbed into them. Scholars disagree about the meaning of the incisions: purely decorative, dress, or tattoos. Such particularising debate misses an essential point about this decoration. While there is some repetition of designs, every figurine is unique, suggesting that each is intended to represent an individual.

Following this brief description, the interpretation of the figurines should now be considered. Ucko's contribution here was that he decisively disposed of the idea that figurines are representations of prehistoric deities, especially the 'Goddess' types (Ucko 1968, 409–419). Once Evans became convinced of the existence of a Minoan Great Goddess, he projected this idea back into the Neolithic period (Evans 1921, 51–52). Hutchinson followed, drawing connections with the Classical Greek goddess of childbirth, Eileithia (Hutchinson 1938, 54).[1] One consequence of this almost ideological interpretation was that the female sexual characteristics of the figurines were emphasised, often in highly selective descriptions, while neglecting male or sexless figurines (Goodison & Morris 1998, 114–115).

In contrast to this singular interpretation of the figurines, Ucko pointed to the variation observable in the figures, and argued for a plurality of their uses and meanings: as dolls, initiations figurines, sympathetic magic (Ucko 1968, 420–444). Added to these might be some of the uses he attributes to the Egyptian examples: mourning, servant, concubines, twins. It is clear from the variability observable

in the figurines, the individualisation referred to above, that Ucko's insight of a plurality of uses and meanings to these figurines is undoubtedly correct.

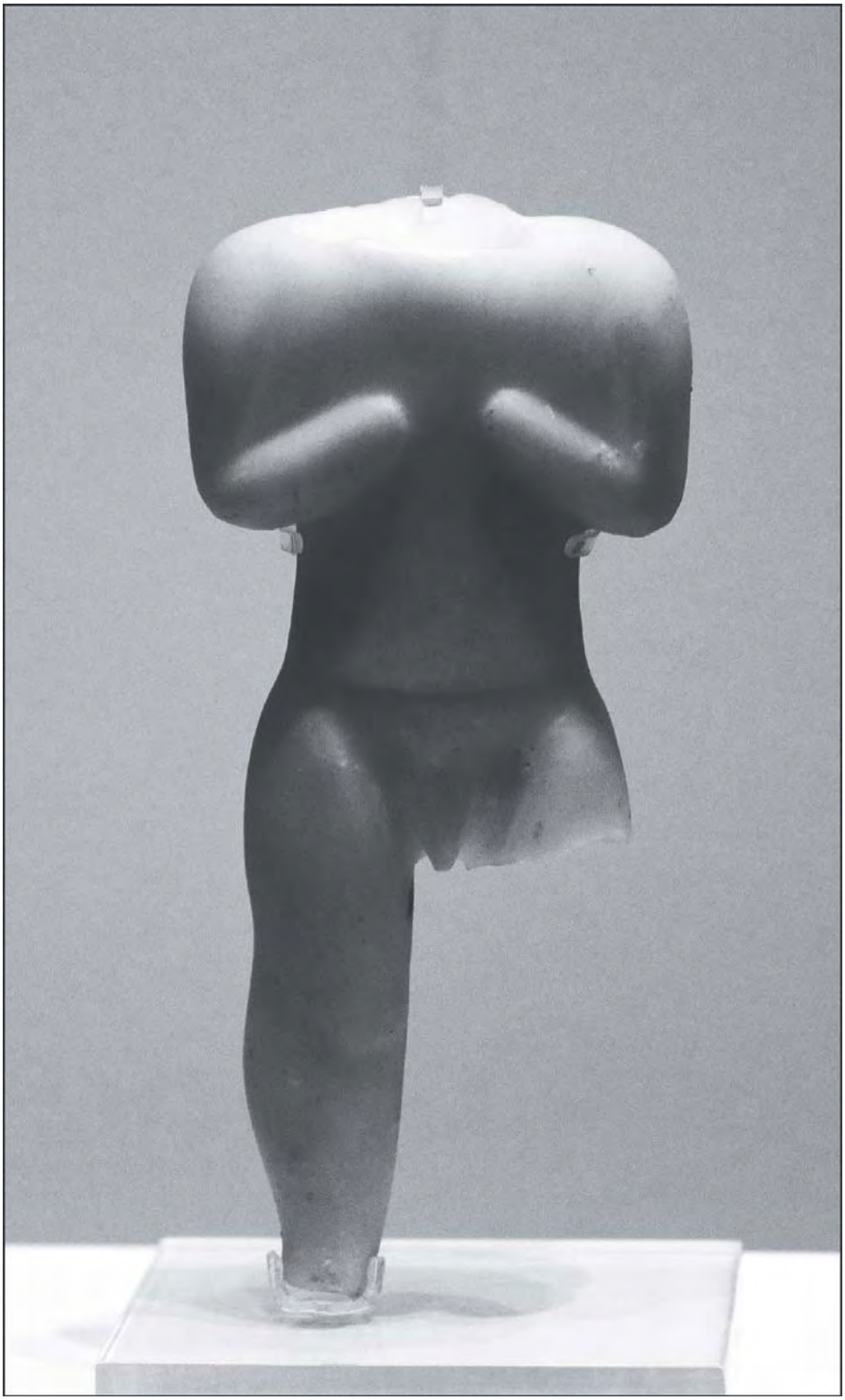

Figure 11.2 Knossos Neolithic violin-shaped figurine in clay, Heraklion Archaeological Museum (photo: author)

Nevertheless, the idea that these figurines represent a Mother Goddess continues to persist, especially in cases where the boundaries between archaeology and popular ideologies such as feminism

and the Goddess Movement become blurred. Two scholars have been particularly influential here: James Mellaart, in his identification of Goddess figurines at Çatalhöyük (Mellaart 1967), and Marija Gimbutas in her work on Balkan figurines, the scope of which which broadened to include all of 'Old Europe', including Crete (Gimbutas 1982). This has provoked strong reactions among scholars against the Goddess interpretation. In relation to the Çatalhöyük figurines, Meskell & Nakamura, for example, call into doubt such a monolithic religious interpretation in favour of a set of more diffused ritualised associations, 'figurines as process', rather than divine images (Meskell 1998, 51–52, 59; Meskell & Nakamura 2005, 183–185). Bailey (2005) and Conkey and Tringham (1998) have further developed Ucko's (1968) approach in emphasising the importance of context.

Returning to the Cretan material, Mina's recent work has a specific 'gendering' agenda (Mina 2008). She reasserts the feminine characteristics of the figurines to the point of attributing as 'female" what appears to be sexless imagery. This is in order to support her notion of the figurines as being used in rituals to define social and sexual identity. The problem with this approach is that, while it advocates a plurality of uses and meanings for the figurines, it labours an intellectualisation of 'gender' in a manner that reveals more about contemporary obsessions than it does about Neolithic Crete.

In contrast, if it is considered that these figurines were created to express the intended purposes of their makers, in some cases the representation of gender was meaningful in terms of the use of the figurine. In other cases it was not and, instead, the figurine represented simply the idea of personhood – of humanity.

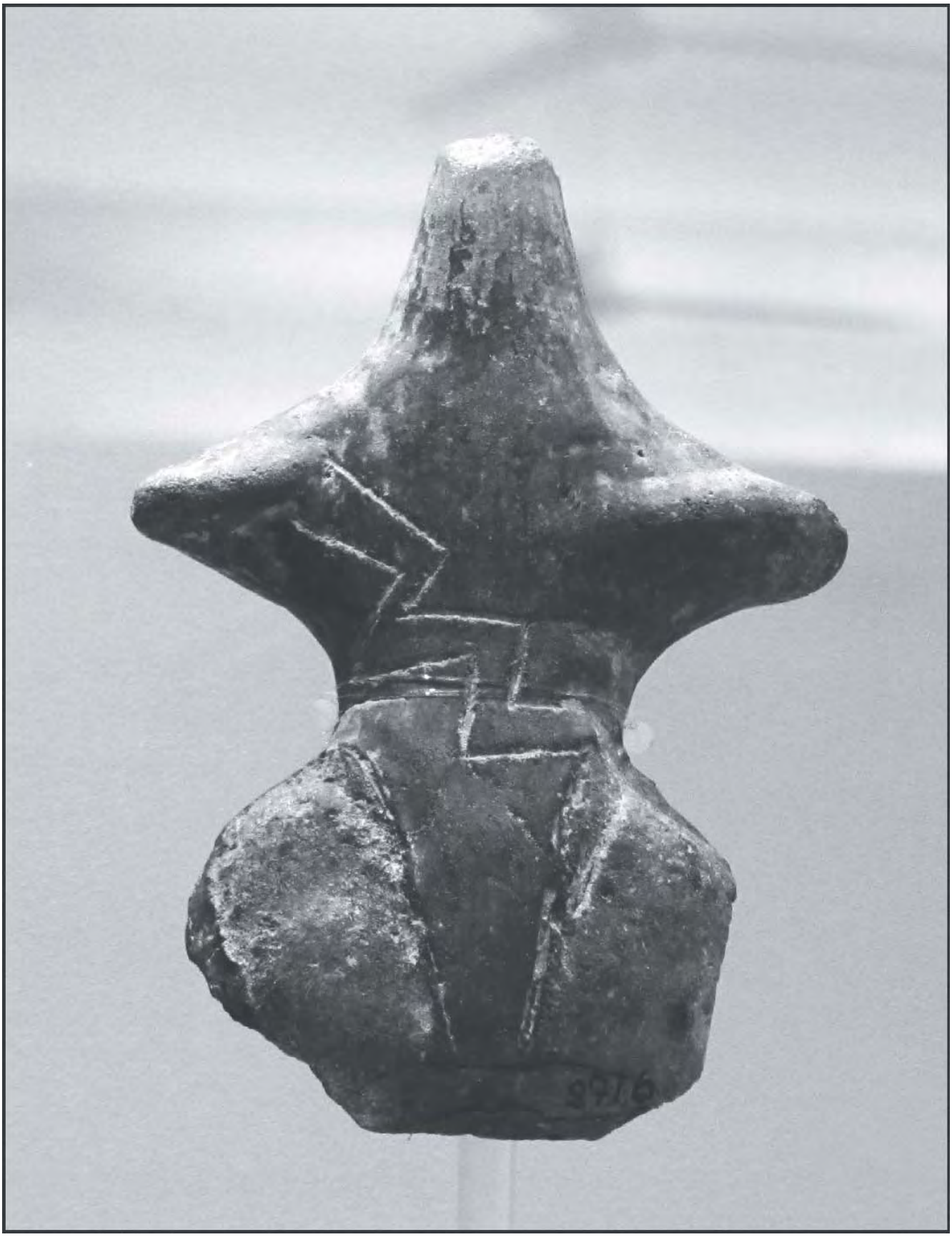

Figure 11.3 Knossos Neolithic marble figurine, Heraklion Archaeological Museum (photo: Wikimedia Commons)

What then are the strands of evidence that can be brought together to interpret the Cretan

Neolithic figurines? First, there is the notion of the figurine itself. Bailey has emphasised the 3-dimensional conceptualising, miniaturising, individualising processes involved in the making and use of figurines (Bailey 2005; Bailey *et al*. 2010). Second, the Cretan figurines, while highly stylised, clearly demonstrate strongly tactile qualities, and a concern for individualisation. Third, the context is within the household, and was time-limited, i.e. a figurine was disposed of when it was broken, or its efficacy had diminished. The figurines essentially demonstrate the conceptualisation of the individual expressed in symbolic material form. This strongly suggests that they operated within the diversity of household and personal rituals. Obvious possibilities would include rituals associated with social status (age- or gender-specific), puberty/initiation rituals and the like, or they may have served as personal charms or amulets, or even the tools of magic. This use of figurines suggests a concern for individual spirituality (or at least the individual within a circumscribed community). It does not, however, indicate the existence of complex, deity-centred, belief systems.

If this is indeed the case, then it strongly suggests that religion on Neolithic Crete was centred on the household context rather than within a broader community context. This would certainly fit with what appears to be the prevailing social structure of Knossos.

The idea that Neolithic Crete was less isolated than previously thought (Isaakidou & Tomkins 2008), also supports this idea. The much richer evidence of religion from the Greek mainland in this period also appears to be centred on the household (Souvatzi 2008, 216–222). The corpus of figurines from the Greek mainland Neolithic sites is richer, with more elaborate figurines, and also includes house-models and animal figurines (Marangou 1996, 149–150). But again, the choice of representations reveals a concern for the houshold and the individual.

Further afield, the idea of a household-centred religion may also be perceived operating at Çatalhöyük and other Neolithic sites (Bloch 2010, 161–162). Neolithic Crete shared that spiritual milieu, albeit in the context of an indigenous process.

Animal (zoomorphic) figurines

Before leaving this discussion of figurines, mention should be made of animal figurines of the Cretan Neolithic. Notwithstanding the scarcity of known examples it is, nevertheless, surprising in that that they remain almost entirely neglected in scholarly discussion. Some of the fragments are, however, mentioned and illustrated in Evans's reports (1964). Among those that are recognisable beyond 'indeterminate quadruped' are snakes and bulls. Goodison and Morris have commented on the privileging of human (anthropomorphic) figurines over comparable animal (zoomorphic) figurines in discussions of Early Minoan religion (Goodison & Morris 1998, 117). The same criticism may be levied upon discussions of Cretan Neolithic religion (Goodison & Morris 1998, 114). Until a more represented corpus of Cretan Neolithic animal figurines is available, comments are necessarily superficial. But two points may be made. First, animals associated with the household are represented – domesticated cattle and snakes (there are many traditions of the house-snake in the Mediterranean area and elsewhere). Second, the bull and the snake are the two key animals associated with later Minoan religion. Perhaps it is possible to infer from this a degree of continuity between Neolithic and Minoan spiritual symobolism.

Human burials

Whether burials are truly part of religion or not is a much contended issue in archaeology. For the purposes of this chapter, it will be assumed that they are. It is striking, however, just how little evidence there is of primary burial practices for Neolithic Crete. As an aside, curiously there is similarly little burial evidence for the highpoint of Minoan civilisation in the Neopalatial period (conventionally dated c. 1700–1450 cal BC). At Knossos, there are a few intramural infant-burials in the earliest and the latest phases (Triantaphyllou 2008, 139, 146–148). The few adult bones found were disarticulated. Human bones have been found in many of the Late and Final Neolithic caves sites, notably the Trapeza Cave on the Lasithi Plain (Pendlebury *et al*. 1936) and Pelekita (Davaras 1979) on the east coast. In all cases, the bones are not just disarticulated, but they also strongly suggest secondary burial practices. In the case of the Ayios Charalambos cave, used mainly in the Minoan period, Neolithic human bones appear to have been brought there from elsewhere (McGeorge 2008, 578). While this is frustrating for the understanding of Neolithic mortuary practices, it does reveal something important for the present theme – the manipulation and handling of human bones (Tomkins 2013, 69–71).

Looking ahead to the Early Minoan period, tombs are the most monumental structures of that period. Used over many generations, with 100s, and in some case 1000s, of burials, it is clear that Early Minoan funerary rituals were elaborate, involving secondary burial and the extensive handling of bones. As sites within what was regarded as a sacred landscape, tombs were also associated with notions of celestial cosmologies, with entrances orientated eastward towards the sun (Goodison 1989; Goodison & Morris 1998, 118–119). Clearly, an important component of Early Minoan religion was a cult of the ancestors.

Although the Neolithic evidence for mortuary practices is more tenuous, it reveals the same pattern of activities. As noted above, it is conventionally argued that some of the Neolithic caves, with evidence for secondary and primary burial, were also used as habitations. This creates a variation of intramural burial. From a religious perspective, intramural burial, whether the primary burial of infants, or the secondary burial of bones, serves to emphasise familial/community continuity. It binds the living and the dead together, and creates a spiritual community that transcends ordinary divisions of life and death, natural and supernatural. This strongly suggests that the ancestor cult, in evidence during the Early Minoan period, had its its roots in Cretan Neolithic practices.

This pattern of burial practice supports the evidence of the social role played by Cretan Neolithic figurines. Both categories of evidence emphasise the individual, the familial, the household – religion as a restricted, household activity, without any sense of elaboration or organisation.

Feasting

Phaistos, in the south, is the site of Minoan Crete's second major palaces. Habitation, in the form of small hilltop houses, begins in the Late Neolithic, seemingly as late as Final Neolithic, and contemporary with the latest Knossian Neolithic layers (Todaro & Di Tonto 2008, 177–181). At several locations on the site, two near the later West Court, and one near the later Central Court, was found evidence for the extensive preparation and consumption of food and drink. That this was more than merely domestic use is indicated by the scale of the material, and the fact that any associated architecture appears to be ephemeral, linked to periodic 'episodes of consumption' (Todaro & Di Tonto 2008, 181–189). The excavators characterise this material as evidence of ceremonial feasting,

organised by the Phaistos housholds, but drawing in other local and regional communities. It is fairly clear that this is the beginning of Phaistos's Minoan role as a regional power-centre and palace.

In terms of the interpretation of Neolithic religion, it reveals two major aspects. First, it suggests that ceremonial activity now transcends the limitations of the household, and is being used to express a sense of greater community identity and cohesion (one of the key factors common to religions). Second, it is associated with a greater socio-cultural complexity. Linked together, what is apparent here is the beginning, in Neolithic Crete, of the institutionalisation of ceremonial practices – religion, in the broadest sense, being used to support emergent hierarchies and socio-political structures.

Sacred landscapes?

The final body of evidence to consider in this chapter highlights the need for greater research into the notion of a sacred landscape during the Cretan Neolithic. The best attested shrines of the later Minoan sacred landscape are represented by the cave sanctuaries and mountain peak-sanctuaries. The presence of Late and Final Neolithic pottery in Minoan sacred-cave contexts would suggest a degree of religious continuity (Tyree 1974; 2001; Tomkins 2013). The precise nature of that continuity is, however, difficult to ascertain. It is highly unlikely that the caves were sacred in the same manner and reflective of the same spiritual concepts during the Neolithic as they were during the succeeding Bronze Age. A more plausible scenario of the sanctity of caves such that of Eileithyia at Amnissos, Psychro on Dikte, as well as the already mentioned caves of Trapeza and Pelekita, is that their combined use as places of secondary burial, performative ritualisation, and possible habitation during the Neolithic imbued them with a symbolic, spiritual value, that evolved into specific localised landscape cults. Furthermore, Eileithyia and Psychro, over time, became Pan-Cretan cult sites that continued in use into the Greek period later (Tyree 1974; 2001; Watrous 1996). The complexity of that later use undoubtedly had relatively simple beginnings.

While the connection between Neolithic caves and Minoan sacred caves is well-attested in the archaeological record, the possibility of Neolithic sacred mountains is presently only an intriguing possiblity warranting further investigation. Minoan peak-sanctuaries, exemplified by the mountain peaks of Petsophas (Myres 1903) and Jouktas (Karetsou 1981) among approximately 30 of the known sites, are essentially the landscape-shrines of the Minoan palatial period (Peatfield 1990). The archaeological evidence for their use comprises large numbers of clay figurines and pottery. While some of the sites commence in the immediate period before the emergence of the palaces, at c. 2000 cal BC or earlier, the zenith of the peak-sanctuary phenomenon occurs during the Middle Bronze Age (c. 2000–1700 cal BC). During this period, all the known peak-sanctuaries were in use, suggesting it was a popular, non-elite cult. The second phase of peak-sanctuary use was in Minoan Crete's Neopalatial period (c. 1700–1400 cal BC), when the cult became dominated by the palatial elites.

What does this have to do with Cretan Neolithic religion? During the excavation of the small peak-sanctuary of Atsipadhes in west Crete, Final Neolithic pottery was found on the lowest level of the site (Peatfield 1992, 71–72; Morris & Batten 2000). Although the pottery was intermixed with the later peak-sanctuary pottery and figurines, there was no evidence of material which filled the chronological gap between Final Neolithic and Early Minoan III/Middle Minoan I (the date of the earliest Minoan material). This comprises a period of at least 1000 years. The Atsipadhes Neolithic material is all pottery; there are no figurines, bones, stone tools or evidence of domestic debris. It is,

therefore, very hard to characterise – not definitively religious, but definitely not domestic. The only potential evidence of ritual use comprised two upturned cups placed on the natural *terra rossa*. Uncertain of how exactly to interpret this material, the Atsipadhes team requested excavators of other peak-sanctuaries to look for the presence of similar Neolithic material amongst their collections of finds. Since then, Neolithic pottery, again in the lowest strata, has been identified at Traostalos in East Crete (Chryssoulaki 2001, 63), and is also reported from several other peak-sanctuaries, including Jouktas (Karetsou pers. comm.). Until that material is published, however, the notion of Cretan Neolithic sacred mountains remains conjectural, but admittedly attractive.

Conclusions

It has to be acknowledged that in comparison with other Neolithic sites and cultures, the evidence for religion on Neolithic Crete is disappointing and frustrating. With the inevitable focus on Knossos, however, it must be repeated that this evidence is drawn from only 1% of the site. Is that 1% representative of the whole, or are there more spectacular finds hidden under the Minoan remains? If the 100+ figurines are considered as numerically representative, that would mean there are 10,000 figurines at Neolithic Knossos, which would constitute a far greater corpus of figurines than any other Neolithic site in the east Mediterranean. But this is speculation.

In summary: for the greater part of the Cretan Neolithic, the evidence for religious practices comprises figurines found in secondary habitation deposits. This suggests a restriction of symbolic, spiritual, behaviour to the needs of the individual and the household. There is no evidence for complex belief-systems, expressed in the form of large-scale rituals or developed iconographies. Although the conventional picture of Knossos being isolated from contact with mainland communities is being challenged by current research, the likelihood that it was the only major settlement on the island would have created a rather inward-looking community perspective.

The general mortuary evidence, intramural infant-burial and secondary treatment of remains, also suggests a similar focus on the household, on family.

Where the evidence for Cretan Neolithic religion does become more apparent and substantial, is during the Late, and especially Final, Neolithic periods. It is no coincidence that this is also the time when the Cretan population expanded, and dispersed away from Knossos over the remainder of the island. Contact with cultures outside Crete appears to have increased, and there may also have been an influx of people or groups arriving from abroad. What is most notable in the Final Neolithic is a significant increase in cultural complexity on Crete. It is for this reason that scholars identify this as also being an incipient Chalcolithic period, with more affinity to the following Bronze Age, than with the preceding earlier Neolithic periods. It is an acknowledgment that most of the Cretan Neolithic appears to represent a cultural stasis. If this interpretation is correct, it is no surprise that the diversity in religious evidence also occurs in the Final Neolithic: greater numbers and elaboration of figurines, more evidence for mortuary activity, the possible construction of a sacred landscape, the beginning of institutionalised ceremonial practices – they are the spiritual counterpart to the dynamic social processes which led to Minoan Crete.

Within a broader discussion of the development of religion, it is also clear that any model which makes religion, in organised form, as co-phenomenal with the emergence of the Neolithic, is just too simplified. On Crete, the factors which restricted the manifestation of Neolithic culture to merely

subsistence strategies, clearly also restricted the manifestation of religious behaviour. This is not to suggest that Neolithic Crete offers in any way an alternative interpretative model for the development of religion. But it is a salutary reminder that the interaction of religion and culture is a more complex process than can be accounted for in any present explanatory models.

Note

1 There is one particular Cretan Neolithic figurine which many regard as decisively a goddess image, the so-called Ierapetra Goddess, 14.5 cm in height, and rendered in a cross-legged seated posture, the emphasis on large buttocks and thighs allows comparison with Balkan Palaeolithic and later 'fat lady' figurines. The problem with this figure is that it is a surface find, without context. It has not yet been definitively proved to be ancient, and Ierapetra is often used as the supposed find area for archaeological fakes on Crete. Essentially, this figurine cannot be used in hypotheses advocating Cretan Neolithic religion.

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12

Ancestors in the rock: a new evaluation of the development and utilisation of rock-cut tombs in Copper Age Sicily (4000–3000 cal BC)

Jennifer Wexler

The development of rock-cut tombs in Sicily at the end of the Neolithic suggests a major shift in mortuary practices. By the beginning of the Copper Age (CA), not only do we see evidence for new economic activities through the greater utilisation of the variable landscape zones and regional connections, but also increasing complexity in the mortuary record and reproduction of social identity, with many elements of social cohesion and group relations becoming expressed through increasingly visible cemeteries. The development of rock-cut tombs facilitated the establishment of permanent cemeteries thereby aligning a community or kinship group with a specific topographic locale within the landscape. Additionally, these tombs permitted continual access to the mortuary realm for the first time suggesting an extended series of transition rites, as well as an increasing complexity in the manner in which social stability and identity were being maintained during the Copper Age. Using data from previous research, in addition to new site-surveys, this chapter will consider the significance of the development and utilisation of rock-cut tombs during the Copper Age (4000–3000 cal BC) in Sicily, specifically in light of the social changes suggested by the archaeological record. In particular, the spatial proximity between rock-cut tombs and domestic habitations will be considered in conjunction with specific cemetery features.

Copper Age, Sicily, mortuary landscapes, ritual, rock-cut tombs

One of the most notable features of the Copper Age (CA) throughout the central Mediterranean is the emergence of rock-cut tombs as the prominent form of burial practice. Beginning as simple pit-graves

cut into compact rocky soil and soft bedrock, the utilisation of these types of tomb eventually develops into permanent cemeteries, often with hundreds of tombs cut into large areas of surface bedrock. This chapter focuses on the initial development of rock-cut tombs in Sicily, primarily western Sicily, from the end of the Neolithic to the beginning of the Late Copper Age (LCA) c. 4000–3000 cal BC. During this period, we see the first large-scale adoption of rock-cut tombs in Sicily, primarily in the form of shaft-tombs grouped into large cemeteries cut into surface bedrock, and in close proximity to habitation areas or house structures. As the cemeteries develop over the duration of the CA increasing elaboration in burial features and ritual remains takes place, including the introduction of multi-chambered tombs, pits with additional ritual offerings, and ambiguous ditches and basins delineating burial areas.

The emergence of rock-cut tombs in Sicily at the end of the Neolithic suggests a major ideological shift. At this time, there is evidence in the archaeological record for wider-scale landscape utilisation, the evolution of a more settled lifestyle, the emergence of new concepts of territoriality and the development of greater regional interaction. Increasingly, prominent visible cemeteries and increasing complexity in the mortuary ritual from the beginning of the CA were undoubtedly linked to new forms of social cohesion and group relations engendered by these changes. The development of rock-cut tombs not only allowed for the establishment of permanent burial grounds, thereby connecting a community or kinship group with a specific topographic locale, but for the first time permitted continual access to the mortuary realm. The adoption of this form of tomb may also relate to an increasingly elaborate and possibly extended ritual treatment of the body after death, as well as an increasing expression of social differentiation through modest variations in the burial deposits (Hayden 2007, 81, 83; Giannitrapani 2012).

The unreliable nature of the evidence for many CA sites, as well as the complete lack of certain types of data (e.g. scientific dating), leaves many unanswered questions concerning cultural developments during this period. Fortunately, mortuary evidence has traditionally predominated Sicilian prehistoric research, thus making it an excellent corpus of data from which recent developments in landscape archaeology and mortuary analysis have been applied to reanalyse and recontexualise these archaeological sites.

This chapter will, therefore, examine the construction, development and utilisation of mortuary sites in western Sicily during the CA (4000–3000 cal BC) as vestiges of past social practices, considering not only the obvious remains of mortuary ritual, such as burial deposits and skeletal residues, but also taking into account the locations of these mortuary rituals in relation to topographic features, settlements, agricultural land, and the broader remains of the surrounding relic ancient landscape. This perspective is taken as a means to move beyond the current dominant explanatory framework in Sicilian prehistoric studies that is based chiefly on ceramic typologies, and to attain a better sense of tomb context within the natural and social landscape. As well as reassessing data from secondary sources, this chapter also seeks to demonstrate the potential of new field-research by introducing data and insights gathered during recent research in western Sicily.

The origins and development of Copper Age tombs in the central Mediterranean and Sicily

The origins and development of rock-cut tombs in the central Mediterranean have been much debated. Previously, the emergence of rock-cut tombs in the central Mediterranean were regarded as either part

of a ‘megalithic complex’ or as originating in the eastern Mediterranean, or a combination of both ideas, with a consistent emphasis on eastern antecedents for many tomb types. In Sicily, the idea of eastern origins for rock-cut tombs is related to the appearance of the first tombs at the end of the Neolithic. Tinè, for example, considered the appearance of rock-cut shaft-tombs at the end of the Neolithic, in association to new mortuary rites, to be introduced based on a supposed ‘fracture’ between the Neolithic and CA evidenced by changes in ceramic styles, domestic structures and tomb architecture (Tinè 1963, 79). He hypothesised that the arrival of a new group of people in Sicily during the CA was part of a larger ‘cult of the *tomba a forno*’ which originated in Egypt and eventually spread throughout the entire eastern and central Mediterranean via Anatolia (Tinè 1963, 92).

Such diffusionist theories for the origins of central Mediterranean rock-cut tombs have been widely disputed, first by Whitehouse (1972) and, more recently, by Hayden (2007). Their findings, drawing on scientific dating, architectural and ceramic studies to establish a more definitive tomb-chronology, suggest an indigenous origin for the rock-cut tombs, developing out of pre-existing local Neolithic mortuary traditions of pit-graves. In turn, these changes in mortuary ritual most likely related to social changes which took place at the end of the Neolithic. Tombs increasingly became repositories of group histories, often in connection to specific places or territories and in connection with the increasingly elaborate ritualisation of burial and social differentiation of mortuary goods (Robb 1994, 49; Hayden 2007, 77–78; Giannitrapani 2012). Evidence for ritual activities at rock-cut structures, such as the *galleria* at Stretto, Partanna (province of Trapani) (Tusa *et al*. 1999), and in cult caves throughout Sicily and southern Italy during the Neolithic, further support the likelihood of the indigenous Sicilian development of rock-cut tombs – and demonstrative of a pre-existing cosmological and ritual significance in connecting to the ‘other world’ of underground places and the concept of placing one’s dead within artificial or natural rock-cavities (Whitehouse 1992).

Rock-cut tombs in Sicily began to appear in the Neolithic. The earliest evidence comes from the Castelluzzo di Mazara, near Mazara del Vallo in south-west Sicily, where three tombs with a few sherds of Middle Neolithic Capri and Serra d’Alto pottery were found, broadly dating the site to 5300–4000 cal BC. This is a significant departure from the simple pit- or trench-graves of the Neolithic, usually found in close proximity to settlements or within domestic contexts (Leighton 1999, 67–71, 78–79).

The commencement of the long-standing rock-cut tomb tradition can seemingly be traced to two Late Neolithic/Early Copper Age (ECA) sites, Piano Vento (province of Agrigento) near Palma di Montechiaro in southern Sicily, and Valdesi at the base of Monte Pellegrino in the Conca d’Oro (province of Palermo). Piano Vento has the best intact evidence for an early rock-cut tomb cemetery, with two radiocarbon dates from the site indicating that it was being used during the Late Neolithic–CA transition, *c*. 4000–3400 cal BC (Castellana 1993). The early date of Valdesi is somewhat less certain in that the site was discovered in 1897 by workers collecting soil to fill the swamp of Mondello, on the outskirts of Palermo, subsequently making it difficult to reconstruct the original site conditions. As with Piano Vento, the tombs were cut into compacted rocky soil, rather than soft bedrock, suggesting that they might date to the very beginning of the rock-cut tomb tradition – before methods improved allowing cutting into harder rock. Mortuary deposits contained cultural material, including ceramics, ranging from ECA San Cono-Piano Notaro to LCA Serraferlicchio/Malpasso/Piano Quartara ware similar to those found at the nearby tomb of Anfossi, indicating a long period of site utilisation (see Tusa 1983, 231; 1999b, 142, for further discussion). These ‘*protoeneolithic*’ tombs fall somewhere

between the pit-tombs (*tomba a fossa*) of the Neolithic and the shaft-tombs (*tomba a pozzetto*) of the CA, with some tombs at Piano Vento showing *in situ* progression towards the development of early tomb chambers dug into hard marly-clay soil (‘*trubbo*’), though not always successively (McConnell 1997, 282).

Sicilian Copper Age tomb types

From the beginning of the CA (c. 3500–2500 cal BC), we see the widespread adoption and utilisation of rock-cut tombs throughout Sicily. The most common general type is a small subterranean tomb cut into flat, or gently sloping, ground and entered from above or via a vertical shaft (Leighton 1999, 93). The tombs entered from above, the *Tomba a Pozzo* (well/pit-tomb), are situated on level ground and accessed through a form of ‘trapdoor’, sometimes covered by a stone slab (*lastra*), that opens directly into the burial chamber. This type of tomb is less common but there are some ECA/MCA examples, possibly as adaptations to the local topography or earlier versions of a shaft-tomb. The most famous example of a pit-tomb was found near Contrada Minnace/Fondo Dominici, Carini by Baron Starabba in the 19th century (Fig. 12.1) According to Starabba, the destroyed tomb had a large, circular underground chamber with 18 skulls found arranged near 18 small vases full of grey powder (ashes?) placed around the base of the tomba (Mannino 1997, 304; Bovio Marconi 1944). These sites largely occur in western and central Sicily.

Figure 12.1 Drawing of a singular ‘pit’ tomb discovered near Contrada Minnace/Fondo Dominici, Carini (Starabba 1870; reprinted in Bovio Marconi 1944)

The *Tomba a Forno/Pozzetto* (oven-shaped shaft-tomb), is the most common type of subterranean rock-cut tomb found in Sicily during the CA. These tombs are named after their similarity to the country ovens traditionally found throughout the island. This style of tomb was used throughout the entire period, with some of the Conca d'Oro, Palermo tombs showing evidence for continued utilisation through the beginning of the Bronze Age (BA). Nevertheless, the majority of shaft-tombs date to the 3rd millennium cal BC, with a shift to chamber-tombs occurring during the LCA/Early Bronza Age (EBA) transition (c. 3000–2000 cal BC).

The key defining features of this tomb type are the circular shaft of varying depth/circumference leading to a small circular, vaulted chamber (for example, see Fig. 12.2). The chamber is usually located to one side of the shaft with access controlled by a carved entrance that would have been sealed with a stone slab. Usually there would be a step down between the shaft and chamber. There is some evidence for increased elaboration of the shaft over the course of the CA, with earlier cemeteries often cut into gently sloping surfaces with shorter shafts leading to small chambers, while by the Middle copper age (MCA) tombs are consistently situated on level ground with deeper, vertical shafts and often larger chambers. The most elaborate shaft-tombs appear in the Conca d'Oro and Carini valleys near Palermo, often with shafts up to 1 m in depth and containing two or even three chambers, or niches, carved around the central shaft. As Mannino points out, an architectural advantage to this elaboration may be that the deeper the shaft, the greater the thickness of the chamber's vault, which allowed for increased stability of the rock (Mannino 1997, 304).

The pit- and shaft-tombs usually occur in large cemeteries, often with extensive clusters of tombs (30+) within a single cemetery sometimes with settlements found in close proximity. In the case of some of the larger sites, the cemetery area surrounding the tombs also contains some 'canals' (*canalette*) and 'pits' (*pozzi*) cut into the outcropping bedrock.

Copper Age chronology and problems with the archaeological record

Copper Age Sicily is less known in terms of settlement economy or chronology, than other periods of later prehistory, with the majority of information about the period coming largely from mortuary sites (Malone & Stoddart 2000). Much of the basis of our knowledge of CA tombs in western Sicily comes from lesser-known antiquarian and early 20th century century studies of the Conca d'Oro region around Palermo. During the vast urban expansion of Palermo from the mid-18th century onwards, many sites were excavated and recorded by numerous knowledgeable amateurs and, later antiquarians, most notably A. Salinas (1880; 1884; 1898; 1901), E. Salinas (1907a; 1907b), M. A. De Gregorio (1917), A. Salerno (1925; 1932; 1941) and P. Mingazzini (1941). These sites included the many CA shaft-tombs comprising the famous *Conca d'Oro* 'cultural group'. Without the work of the aforementioned antiquarians, much of the knowledge of the past in this part of Sicily would have been lost, as the archaeological record has been largely destroyed by the modern urban expansion throughout the entire Conca d'Or, as well as the neighbouring Carini Valley.

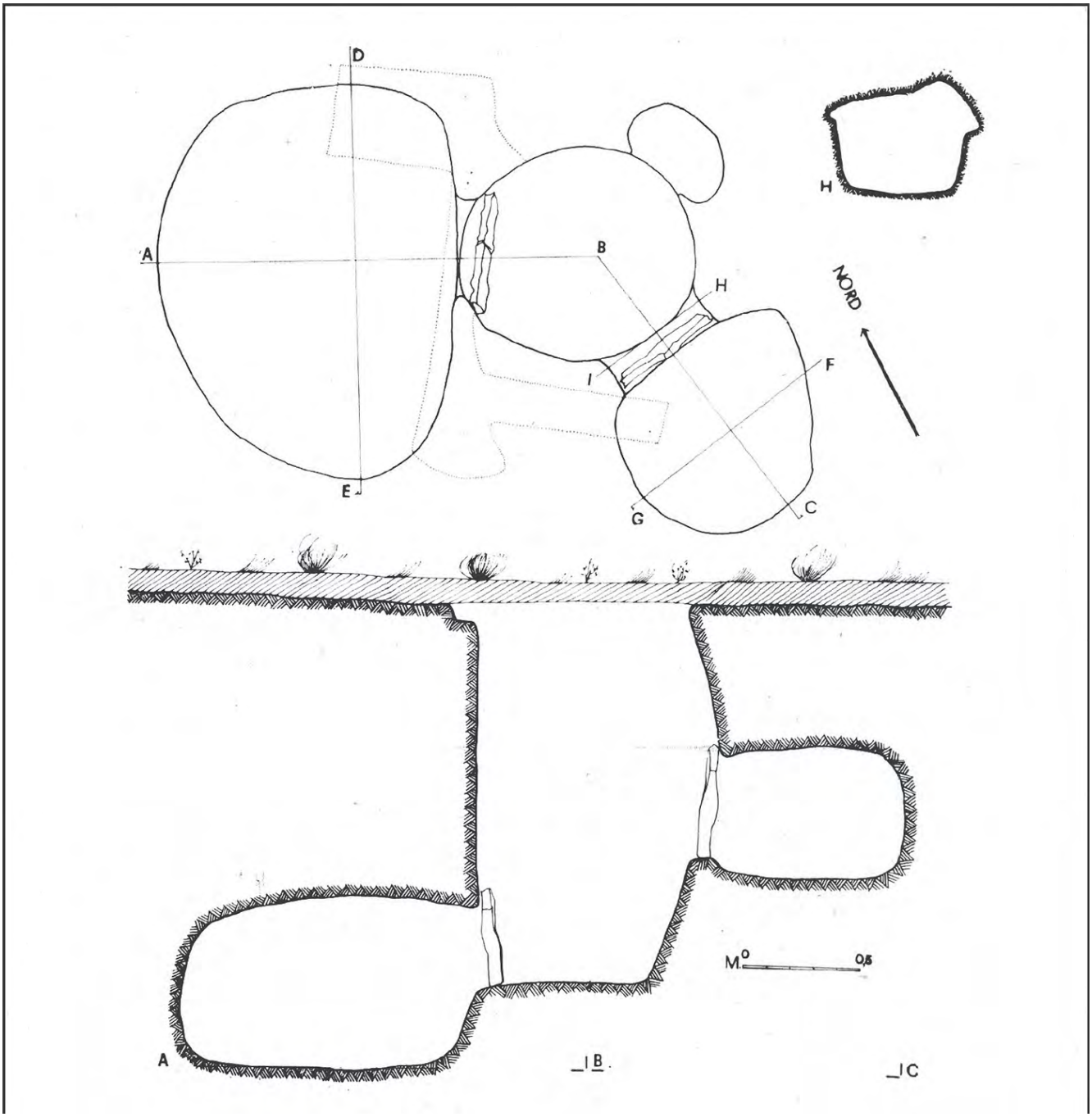

Figure 12.2 Tomb 2, Uditore (PA) (after Cassano & Manfredini 1975)

The limitations of the available data and lack of further site research has created a number of interpretative and chronological hurdles. First, the actual chronology of the tomb sites is not very well understood because of the lack of stratigraphic excavation and scientific dating. There appears to be no general consensus on the dates of the tombs since most of the sites are relatively dated based solely on ceramic typology. This relative dating has led to numerous debates concerning the relationship between the ceramics found in the Conca d'Oro and other CA ceramic styles throughout the island.

The key debate regarding the Sicilian chronological sequence is summarised below. Bovio Marconi was the first to classify the series of CA sites located in north-west Sicily into a unified cultural group (i.e. Conca d'Oro), dividing the Conca d'Oro ceramic style into an earlier CA Conca d'Oro subgroup/period and later EBA Moarda subgroup/period (Bovio Marconi 1944, 118). The CA

Conca d'Oro subgroup is the most numerous, with various deposits found at sites in Palermo, Boccadifalco, Valdesi, Mondello, Carini, Capaci, and Santa Marghertia Belice. The later EBA Moarda subgroup includes finds from Moarda, Villafrati, Segesta, Termini-Imerese and Isnello (Bovio Marconi 1944, 118). Tinè further expands on Bovio Marconi's sequence and identifies the CA as the period of Sicilian prehistory between the end of Neolithic painted ceramics and the 'true and proper' BA (Tinè 1960). He further elaborates Bovio Marconi's ceramic sequence through the chronological association of incised, oval rimmed Conca d'Oro ceramics with eastern Sicilian San Cono-Piano Notaro and Serraferlicchio wares dating from the ECA–MCA, and incised Moarda ware to the EBA (Tinè 1960, 134, 137). Material from sites such as Ciachia in the Carini Valley suggest, however, that some 'Conca d'Oro' type-sites may have been in use through the beginning of the BA, with different tombs possibly in use over a long duration or during different periods, thus making the association between chronological period and material culture very problematic in this part of the island. Following Tusa's suggestion, perhaps the best solution is to assign Conca d'Oro related material more generally to between the end of the 4th millennium cal BC and beginning of the 2nd millennium cal BC, until more reliable dates are available (Tusa 1999a). This broad chronological scheme for Sicily in the CA fits well with more reliably-dated ceramic sequences from neighbouring regions, including a number of radiocarbon dates from sites in Malta and southern Italy (for further discussion see Bernabò Brea (1957) and Leighton (1999).

The development of Copper Age tomb sites in Sicily: the view from the west

Notwithstanding the limitations of the archaeological record of this region, by employing a broader chronology and comparative analysis, it is possible to discern a number of trends in CA sites' tomb development and their utilisation over time.

Rock-cut Tombs in Western Sicily Project

In 2006 the author founded a new project, the *Rock-cut Tombs in Western Sicily Project*, to examine the development and utilisation of rock-cut tombs and other mortuary sites in western Sicily during the CA and BA (c. 4000–900 cal BC). This was initiated in order to supplement the available antiquarian data and to embark on a new analysis of the sites. The project entailed field-based research in western Sicily (Wexler 2011), with specific focus on a geographical area of approximately 85 × 85 km, or 6000 km^2 (Figs 12.3 & 12.4). In particular, the project employed spatial and landscape techniques to analyse the location, utilisation, and interrelationship between rock-cut tomb sites and their physical and socio-cultural landscapes. This included the

1. mapping and locating of sites, recording geo-referenced coordinates for each site and/or tomb;
2. site-landform data, including topographic, environmental, geological, altitudinal and site-formation processes data;
3. specific tomb-information, including the architectural recording of tomb features and site-condition reports;
4. spatial analysis of site layout and field-walking reconnaissance survey to identify the regional history of land-use, as well as to discover new sites and tombs contemporaneous to known

sites.

The majority of the sites studied comprised small cemeteries, generally made up of groups of shaft-tombs cut into outcropping bedrock and hillsides.

By integrating archival research with these new field-surveys it has been possible to identify a number of key components in tomb placement and utilisation over time, including topographic location, tomb visibility, tomb access, site proximities, site perception and the spatial interrelationship between tombs, settlements and other archaeological sites. Below is a brief account of the CA sites studied relevant to the present chapter.

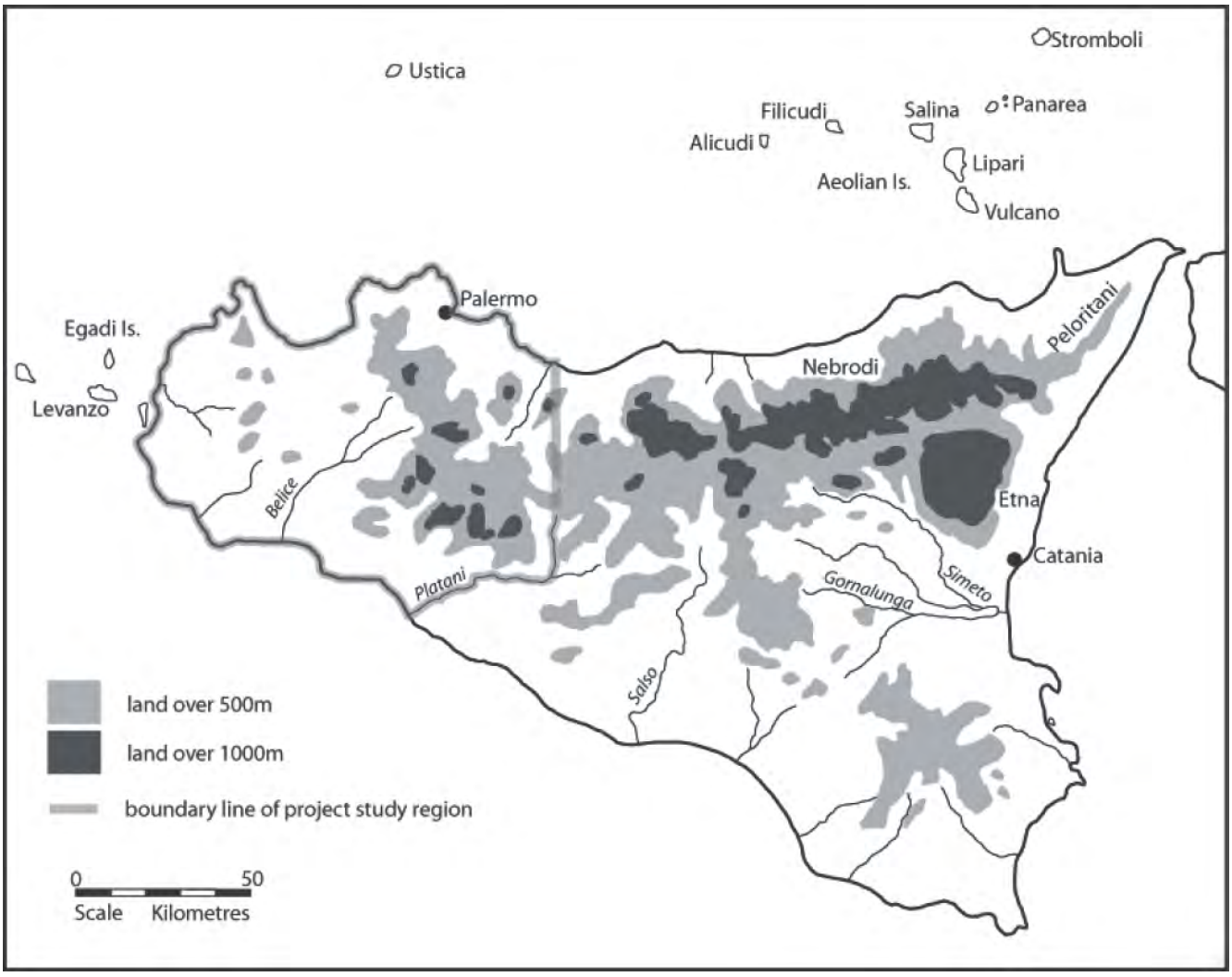

Figure 12.3 Map of the island of Sicily, with the overall project's study region outlined

Summary of findings

In the study region there are approximately 78 known mortuary sites dating from the end of the Neolithic to the beginning of the LCA. These include 55 tomb sites (71%), seven tomb sites associated with settlements (9%), two tomb sites possibly associated with settlements (2.5%), nine cave sites with mortuary material and/or possible cemeteries (11.5%), two cave sites with ritual remains and possible mortuary material (2.5%), two cave sites with evidence for settlement and burial (2.5%) and one site (Stretto, Partanna) with evidence for tombs, settlement, and ritual remains from caves/ditches from the

Neolithic onwards (1%). The sites range from individual shaft-tombs to large cemeteries with up to 100 tombs cut into flat or gently sloping surface bedrock, and caves with both ritualistic and mortuary deposits.

The majority of sites are located in the Conca d'Oro Valley or the adjacent Monte Pellegrino (50 sites, 64% of total sites) in north-west Sicily in the area of modern Palermo. Sites are more sparsely distributed throughout the remainder of western Sicily, with five sites occurring in the inland Palermo Mountains (6.5%), four sites in the coastal mountains along the western Trapani Coast (5%), seven in the adjacent Delia and Mazaro River valleys in south-west Sicily (9%), six in the Belice River Valley, south-west Sicily (8%), five in the Verdura River Valley, south-west/central Sicily (6.5%) and, lastly, one site on the island of Favignana off the west coast of Sicily (1%). There appears to be some bias in the data due to the significant number of sites discovered during the vast urbanisation of the Palermo region over the past century, whereas other regions of western Sicily are generally more rural with less development thus making it more difficult to detect shaft-tombs concealed by many years of sedimentation. When considering the increased number of tomb sites present in the south-west by the LCA/EBA, it appears likely that there may have been many more CA sites in this part of the region than have been discovered to date. This suggestion is further supported by the extensive Monreale Survey (Johns 1992; Leighton 2005), which demonstrated a continuation of occupancy at many sites between the Neolithic and BA in the hilly zones of north-west Sicily.

Over 60% of the CA sites that are known to have existed and were recorded previously appear to have been destroyed, or could not be located during recent field-surveys. Intact sites are largely found in south-west Sicily, including the cemeteries and settlement sites of Roccazzo, Roccazello, Contrada Pitrazzi, Marcita, Vittorio Emanuele, Rocche Girifittino, Stretto, Capo d'Acqua, Contrada Mocata, Castelluzzo, Tranchina, Castello, Cozzo Mastrogiovanni, Grotta di San Calogero/Monte Kronio and Grotta Buca del Fico/Monte Kronio. There are roughly only four cemeteries ((Ciachea, Ciachea Ferrovia, Contrada Serre and Anfossi) and six cave sites (Pizzo Muletta Grotta dei Cocci, Pizzo Muletta Grotta in Parete, Montagnola 5, Grotta di Santa Rosalia and Grotta delle Volpi) left semi-intact in the entire Conca d'Oro region. Given that a significant number of sites have either been destroyed, not located, or were inaccessible, it was only possible to survey 28 sites in the field. Of the sites surveyed, 20 were situated at the bottom or side of a plain or a valley, while four were situated mid-slope on a hillside, three on the upper slopes of a hillside/cliff and one on top of a promontory. The four sites situated mid-slope on a hillside were located on level rock ledges (i.e. so they were not on steep ground), and one site (Roccazzo) comprised a settlement-cemetery constructed within the surface bedrock on the summit of a flat promontory. The three sites situated on the upper slopes of a hillside/cliff are cave sites. Almost all had gentle to moderate inclines, with the exception of the hilltop cave-sites. Sixteen sites were situated at an elevation under 100 m above sea-level, four at an elevation 100–170 m above sea-level and eight at an elevation of 200 m above sea-level or above.

Of the sites visited, there were five large CA cemeteries still relatively intact: Castello (ten tombs recorded, but over 84 found when the site was originally discovered), Contrada Serre (15 tombs), Roccazzo (over 44 tombs, with further tombs still being discovered), Tranchina (36 tombs), and Ciachea/Ciachea Ferrovia (over 47 tombs, though many destroyed). The other sites have 1–3 tombs recorded, although they may have originally formed part of a more extensive cemetery. Looking at the spatial layout of the sites, when there is more than a single tomb, they tend to be clustered into linear

groupings within the cemetery area, almost always to the side or below a habitation area.

Figure 12.4 Surveying the CA tombs at Ciachea Ferrovia (PA) in the Carini Valley

This CA evidence provides a useful addition to the data collected by previous researchers for the discussion of tombs from this period, with the study largely drawing data from 50 key sites highlighted in Figure 4. The above has outlined the sites studied and the data collected, and further information concerning these sites will be provided within the following discussion where relevant.

Tombs in western Sicily – regional concentrations and patterns

There are some distinctive regional patterns that can be observed in the collected data in relation to regional concentrations of sites, topographic location, the interrelationship between cemeteries and settlements, and the evolution of mortuary ritual, tomb types and the utilisation of mortuary sites.

When examining the regional distribution of CA tomb sites in western Sicily, there appears to be concentrations around certain ‘loci’ in the region, in particular the Conca d’Oro in the north-west, and the Delia/Mazaro, Belice, and Verdura valleys in the south-west. In particular, the Conca d’Oro region had a unique cultural development as one of the distinct cultural areas in the CA, as discussed above, with the small clusters of sites and shaft-tombs typical of the 3rd millennium cal BC occurring less frequently with the onset of the BA (Bovio Marconi 1944; Tinè 1960). In south-west Sicily, there is fairly consistent occupation from the Neolithic onwards, including some sites, such as Stretto near Partanna, appearing to have almost continuous occupation through to the modern period.

The majority of tomb sites from the end of the Neolithic onwards are situated along, or near, river

valleys. It would appear that the river valleys served as important economic resources, not only for the fertile land and high water tables they contain, but also as natural corridors of movement and possibly transportation routes between coastal and interior areas of the island.

In the CA there appears to be some regional variation in tomb-setting when comparing those found in south-west Sicily with those found in north-west Sicily/Conca d'Oro. Throughout Sicily, the majority of CA sites were generally situated on low hilly plateaus or rises surrounding and overlooking river valleys. Furthermore, the sites are located in secondary river/stream valleys off the main valleys, frequently in a strategic position at the boundary between two topographic zones (usually valley lowlands and hilly/mountainous hinterland), possibly related to pastoral or seasonal routes.

These secondary valleys allowed for the selection of more secure or localised settings for habitation within the landscape, facilitating good physical and visual access to the regional resources and valleys. This arrangement appears to have become more important over time as larger, more prominent, settlements were established in places of greater strategic value. Frequently, there are clusters of combined settlement-mortuary sites along particular valleys which appear to have served as focal points in the landscape. A good example of this arrangement is found near Borgata Costiera, Mazara del Vallo (south-west Sicily) comprising a group of largely contemporary (ECA–LCA), mixed settlement-mortuary sites (Castelluzzo di Mazara, Roccazzo, San Cusumano, Roccazello and Gazzera) situated on neighbouring hills overlooking a small valley serving as a natural route of movement between the Mazaro and Delia valleys. In essence, during the CA, there is a general emergence of sites situated in naturally 'secure' places with favourable economic and subsistence resource. These new site locations, in combination with the emergence of new types of chamber tombs and other forms of material culture by the end of the CA suggests, indicates increasing social differentiation which continues to develop during the BA (Calafato *et al*. 2001, 47, 48).

Turning to north-west Sicily and the Conca d'Oro, while acknowledging that the archaeological record has been largely destroyed, antiquarian accounts suggest that this area is too important during the CA to not be included in this study. So, using the data available, what can be done to reassess the archaeology of the Conca d'Oro in the context of the remainder of Sicily? Fortunately, there have been a number of useful attempts to collate and locate as many of these destroyed sites as possible. Most notably, Giovanni Mannino in a number of publications (Di Stefano & Mannino 1983; Mannino 1981; 1997; 2008) used the antiquarian record to locate the majority of Palermo sites. He also undertook additional surveys and investigations of these sites in order to gain a better understanding of human utilisation of the region and their topographic distribution (Mannino 1981, 588).

By utilising the information collected by Mannino and others, it has been possible to relocate and survey rock-cut tombs and associated sites using the landscape-based survey methodology of the present research project. Although there are very few intact sites, there are also some notable exceptions, including the fully excavated sites of Ciachea (Quojani 1975), Uditore (Cassano & Manfredini 1975) and Boccadifalco (Bovio Marconi 1964), which can be used as a point of comparison to further evaluate and contextualise these sites in relation to the other tomb sites in the western region and across Sicily.

The sites in the Conca d'Oro/Carini Valley (Fig. 12.5), with its large concentration of CA shaft tombs, are generally situated within the valley bottom and surrounding foothills, rather than in higher locations overlooking the valley. Given that the Conca d'Oro forms a distinct and unique topographic

feature within western Sicily, it is not surprising that the utilisation of this region would vary from that found with the south-west valleys. Many of the cemeteries within the valley were, however, also found to be situated in similar positions close to bodies of water, including rivers, inlets and marshy wetland areas, although the exact relationship cannot always be discerned due to the high level of tomb-destruction. A good example here is the cluster of sites situated along the lower reaches of the Ciachea River in the Carini Valley where there is a concentration of CA tomb sites: Ciachea, Ciachea Ferrovia, Fondo Pozzo, Contrada Carrubbella, Contrada Serre, Contrada Foresta and Bivio Foresta.

Overall, the geology, hydrology and topographical history suggests that the environment of much of the Conca d'Oro Valley, and possibly parts of the Carini Valley, particularly along the coastal littoral comprised forested wetland during the 2nd and 3rd millennia cal BC. The spread of sites primarily during the 3rd millennium cal BC, represents the earliest large-scale occupation of the Palermo region suggesting that the environmental conditions and topography were favourable for the emerging CA communities. It has been suggested (Bovio Marconi 1944, 53–54; Tusa 1999a, 109–110) that the region's principal occupation during this period comprised coexisting small settlement nuclei, consisting of a few huts or houses, and an associated burial ground, often situated near or along the edge of the wooded wetland. This permitted CA communities to further develop a mixed agro-pastoral economy by exploiting the rich biomass resources accrued through the draining the swamplands. Much of the settlement is also situated along the foothills of the mountains surrounding the Conca d'Oro, allowing for communities to access the mountains for seasonal pastures, hunting, additional plant resources, and possible habitation or shelter in times of conflict. The concentrations of sites situated between the Conca d'Oro Plain and hills/mountains of the interior possibly indicates a preference for sites situated at the interface of these two topographic zones which, as noted above, was also the case in other parts of Sicily.

Figure 12.5 One of the main habitation clusters with shaft tombs at Roccazzo (TP)

Relationship between Copper Age cemeteries and settlements

The choice of tomb-location was not based purely on topography but rather choices about specific places within the local landscape. While it is clear that by the CA, river valleys, particularly secondary valleys leading off the main valleys, were being widely utilised for diverse domestic, economic, and ritual activities, what were the specific locational factors determining rock-cut tomb placement within a local landscape?

The association between tomb- and settlement–evidence for this period is often difficult to interpret. Traditionally, the presence of a tomb is believed to be an indicator of habitation, even if no supporting evidence for this has been found. This assumption is still quite common today, largely because relatively few settlement sites have been found in comparison to the number of mortuary sites, even compelling some authors to suggest that cemeteries were almost never located near settlements during the CA (see Giannitrapani 2012 for further discussion). Overall there has been very little inquiry regarding the interrelationship between mortuary and habitation areas, or the underlying elements related to site location, addressed in more detail below.

The available data suggests that there was a growing association between the CA communities, their identity and territory, and certain places within the landscape. This was essentially manifested by the establishment of permanent burial grounds, which would have created an ancestral link between a living community and a natural place, the latter transformed into a cultural entity by the creation of

tombs within it. Leighton also supports this idea:

> convenience aside, this reflects a strong endemic tradition, reinforced by a human landscape in which burial grounds were increasingly prominent. Potentially significant as territorial markers and symbols of power, they also provided a focus for cult activities…to promote social cohesion through ideological controls in a world of growing inequality and insecurity. (Leighton 1999, 90)

Furthermore, as Robb has suggested for the end of the Neolithic in southern mainland Italy, changes in settlement – from cohesive ditched villages into more segmented settlements, in southern peninsular Italy – altered the means by which group identities were maintained and expressed. New, more obvious, cemeteries were employed to preserve the social cohesion and relations of the group by 'mapping them onto the dead instead of the living', making cemeteries increasingly important and visible presences within the landscape (Robb 1994, 27).

One of the key factors in determining tomb-location in western Sicily, therefore, appears to have been the interrelationship with settlements. A good example of this CA cemetery-settlement interrelationship is found at the ECA–MCA settlement of Roccazzo. The site is situated on a small promontory of bedrock overlooking the bend of a small river valley near Borgata Costiera incorporating several other contemporary mixed mortuary/settlement sites discussed earlier in this chapter. It is not possible to determine precisely what the interrelationship of these sites was from the available information, but the area clearly became an important focus for settlement activity during the CA. There are also possible defensive aspects to the locations of sites with associated settlements – on high ridges along the bend of a river or on an obvious route through the landscape. Roccazzo comprises three habitation clusters with large, rectangular, structures defined by ditches cut into surface limestone, and surrounded by shaft-tombs (see Fig. 12.6) (Tusa 1988). Here there are shaft-tombs dispersed amongst the houses and other buildings, and possibly even incorporated into some of the structures. Distinct outlines of rectangular 'long-house' structures, are found cut into surface bedrock surrounded by clusters of tombs, showing a 'spatially close' interrelationship between domestic and mortuary areas during the ECA–MCA, somewhat reminiscent of the trench-graves of the Neolithic. Clusters of tombs around the 3 main domestic-buildings could possibly suggest a family or kin association in relation to the habitation and/or maintenance of the buildings.

The appearance of a type of 'long house' in numerous locations in Sicily is a significant ECA development. Large, elaborate examples occasionally found associated with shaft-tomb cemeteries, are also found in eastern and central Sicily (Contrada Fildidonna, Gisira di Brucoli and Cozzo Matrice near Lago di Pergusa). McConnell suggests that the development of these 'long-houses' is explicitly related to the emergence of pastoral economies and to the (seasonal) movement of people, with the houses acting as seasonal shelters or communal gathering places, possibly shared by extended family groups (McConnell 2003a, 231–232). If this interpretation is correct, then the cemeteries associated with these structures would also have functioned in connecting dispersed communities through the re-enforcement of ancestral ties to a certain locality.

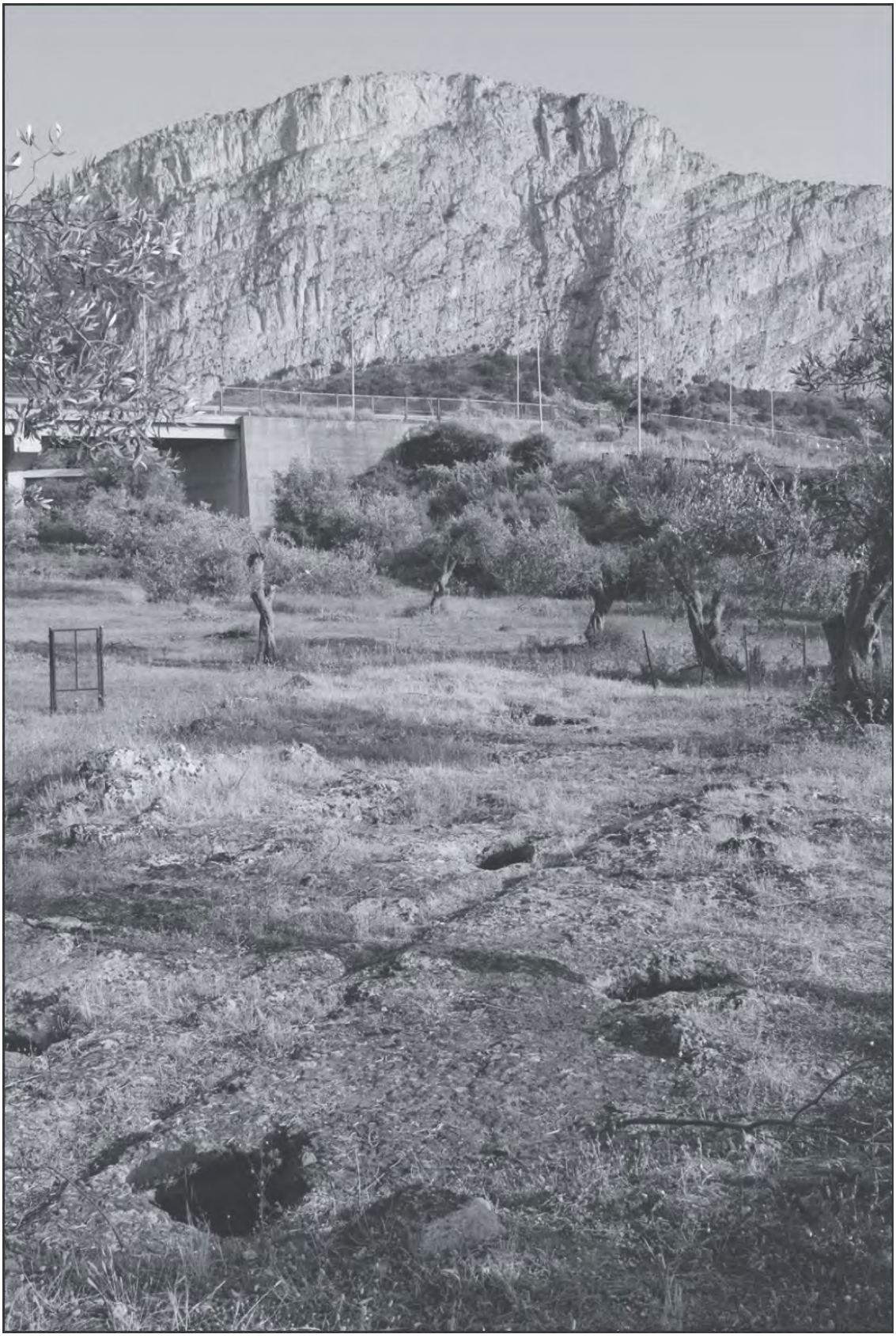

Figure 12.6 The site of Ciachea (PA) in the Carini Valley, showing the main cemetery with shaft tombs, basins, and ditches cut into surface bedrock

Decidedly little is known about habitation sites in the Conca d'Oro region, despite the large amount of mortuary evidence. Perhaps the most significant evidence for a CA village in the Conca

d'Oro is found in the area around Valdesi, at the base of Monte Pellegrino, where there is what appears to be a cluster of small villages with adjacent shaft-tomb cemeteries. The main village-area was established slightly further north-north-east of the Valdesi shaft-tomb cemetery, with finds including plaster from huts, CA Conca d'Oro style vases, loomweights, pestles and net-weights (Bovio Marconi 1944, 33–34; Mannino 1981, 596). The tomb sites of Fondo Scalea and Proprieta Santocanale-Scalea situated in the Partanna/La Piana del Colli, between Monte Pellegrino, Monte Gallo and Mondello, are also possible candidates for Conca d'Oro CA settlements. The two sites possibly represent the peripheral area of a vast cemetery with the finds indicative of intensive prehistoric activity (Mannino 1981, 589). Although no conclusive evidence for the settlements has been found, fragments of plaster, conceivably from the walls of prehistoric huts, are possibly indicative of the presence of large buildings, found elsewhere only in the Conca d'Oro at the MBA settlement of Boccadifalco.

From the available evidence, it is possible to gain some idea of settlement-cemetery interrelationship in the Conca d'Oro, albeit not a complete picture. The discernible trends in the data, however, fits into the overall patterns found in the remainder of western Sicily: low-lying, visually inconspicuous tombs in close proximity to settlements for the duration of the CA. It is, perhaps, logical to assume that many of the shaft-tomb sites would suggest the presence of a nearby settlement, and it puzzling why, even with the high levels of site destruction, there are not more indicators of CA settlements when considering the large amount of material found dating to this period.

There are a few possibilities for this lack of evidence. First of all, given the types of potential habitation occurring in the region, it appears that communities continued to follow the tradition of living mainly in, and around, caves for much of the CA. There are numerous caves found throughout the Conca d'Oro and north-west Sicily with evidence for habitation, including Grotte della Montagnola di Santa Rosalia, Grotta dei Morselli, Grotta del Caccamo, Grotta Addaura Grande, Grotta del Faro, Grotta dell'Acqua, Grotta della Caramula, Grotta Mangiapane and numerous others. This supports Bovio Marconi's theory that:

> tribes which buried their dead in the lower zone, and made their habitations in the caves and shelters, more or less artificially adapted, in the slopes of the foothill zone…the use of the cavern can be contemporary to the artificial tomb. (Bovio Marconi 1944, 53, 118–199)

She refers to the semi-natural, artificially adapted, 'dolmen-like' shelters found near Valdesi as an example of this, indicative of a fairly permanent relationship between a cave habitation and a tomb site (Bovio Marconi 1944, 53, 118–199). The precise nature of these habitation sites is, however, largely speculative, but it appears, based on the analysis of shellfish exploitation, likely that many of the caves would have been used seasonally, as has been found for Neolithic cave-usage in north-west Sicily (see Mannino & Thomas 2007). Another possible reason why more CA settlement evidence has not been found is because the sites may have been ephemeral or seasonal in nature, and therefore not easily detected. If we accept that the creation of cemeteries was a means by which a community could link itself to a specific locale, then perhaps the tombs represent focal points within the landscape to which certain communities, or family groups, would return at specific times for both ritual and domestic purposes. If many of the settlements were ephemeral in nature, their remains would possibly have left little trace (e.g. post-holes, artefact scatters, etc.) and thus were not recognised by earlier archaeological investigations in the region. The fact that the majority of known settlement evidence is

found in the less developed edges of the Conca d'Oro also indicates the loss of evidence caused by recent urban development, and the likelihood that settlements would probably have existed throughout the valley originally.

However, if we accept that cemeteries are indicative of a nearby settlement, what does this say about the spatial distribution of settlements in the region? Tusa suggests that there was 'a diffused network of small hut settlements, nearly always indicated through the presence of the relative cemetery, capillarily occupying the level territory to the edge of the foothills' (Tusa 1999a, 109). It is not possible to state with certainty whether general topographic position says more about widespread prehistoric land-use than tomb placement in particular. Evidence from south-west, central and eastern Sicily suggests that by the EBA, the typical type of land-occupation comprised a small farming settlement (c. 50–100 inhabitants) in fertile and wooded lowlands of the river valleys. These small habitations tend to be closely clustered (c. 3–5 km, or less, apart), which would allowed them to operate a subsistence strategy based on cultivation and animal husbandry, possibly with seasonally-factored transhumance (Cultraro 2004). This could also be the case throughout the Conca d'Oro, with possible habitation areas (i.e. defined by cemetery placement) situated a short distance from one another. These sites could possibly represent extended-related groups, or at least lack of territoriality and/or local conflict during the CA.

Evolution of mortuary ritual, tomb types, and the utilisation of mortuary sites

A brief discussion now follows regarding the specific features of the tomb sites in relation to the mortuary ritual and the utilisation of the mortuary sites. As discussed earlier, there are extensive shaft-tomb cemeteries in the Conca d'Oro, as well as more localised cemeteries situated in other parts of western Sicily. What elements of the mortuary ritual is it possible to detect from tomb remains? How were these sites being used?

It would be easy to assume that the vast cemeteries found in the Conca d'Oro and other areas of Sicily were simply developed to exploit locally available areas of surface bedrock, but the archaeological evidence suggests a much more complex picture. The evidence shows a gradual technological shift from the earthen graves of the Neolithic to the early CA rock-cut tombs (e.g. at Piano Vento and Valdesi). The development of the latter indicates increased elaboration, not only in relation to mortuary customs, but also in the conception of an individual's identity within the community and that community's connection to its surrounding world. Rock-cut tombs appear to gradually emerge as symbols of entire communities, territories, power and the cosmological beliefs associated with specific places.

The development of the rock-cut tomb form appears to be linked to this increased ritualisation of mortuary practices. By creating more permanent graves, it was possible to reopen and/or reuse the grave for extended treatment of the deceased (Hayden 2007). ECA mortuary deposits from rock-cut tombs at Piano Vento, Roccazzo and several sites in the Conca d'Oro provide evidence for an articulated mortuary ritual possibly incorporating several stages from the moment of death to the actual burial of the body. These stages may have included the collection and curation of bones following decomposition of the body (particularly cranial and long bones), the assembling of votive offerings (usually ashes, burnt animal-bones, broken pottery, ochre and figurines) in adjacent pits or ceramic containers within the tombs and the reburial or secondary deposition of the curated bones. At

Roccazzo, secondary depositions of cranial/post-cranial bones were found in many tombs, often placed on top of carved lithic slabs positioned along the left-hand side of a burial chamber (Cocchi Genick 2001, 114, 115–116). This evidence for secondary deposits and votive offerings suggests that an extended series of transitions rites not seen in earlier the Neolithic were being undertaken at these mortuary sites, possibly indicative of increasing complexity in the manner in which social stability and identity were being expressed and maintained during the CA.

Initially, the pit-tombs, such as at Castello and Valdesi were quite small, with only one or two deceased individuals to be placed in the tomb. Collective burial is not necessarily a trait of rock-cut tombs, and shaft-tombs contained fewer depositions per chamber in the earlier phases of the CA (Leighton 1999, 93). Of the 36 tombs found at Tranchina, 33 contained single burials in associated with ECA material. Tinè suggests that shaft-tombs were first used for single burials, then later used for collective burial without an obvious architectural change or enlargement in chamber size (Tinè 1963, 78). The majority of Conca d'Oro tombs, which probably date to the second half of the CA, contained 1–5 burials. The inclusion of multiple chambers leading from a single shaft, in association with human remains placed along the side of chambers, suggests that burials took place within the same grave but at different times, although some of these may have functioned as 'niches' rather than chambers, possibly for offerings made to the deceased (Tusa 1983, 223). The creation of a permanent burial-chamber carved into the rock would have allowed the living to reopen when needed in order to insert new corpses, generally by moving the existing remains to one side so that only one or two articulated skeletons would be left *in situ* at any point in time. This would allow for members of the same family, or clan, to be unified within a unique single location. Clusters of tombs around surrounding house structures at Roccazzo suggest that they would belong to the same family unit, which is reminiscent of the Neolithic practice of burying family members under the floor of the house. Furthermore, anthropological examination of the bones from 16 individuals recovered from a LCA shaft-tomb at Roccazzello would indicate that the remains represent members of the same family (Becker 2002, 32–33; McConnell 1997, 286), although there may have been some burial bias with male burials most common. Individual or small group burials in tombs for the majority of the CA could possibly reinforce the status and power of certain families or community members while still maintaining individual post-mortem identity. This type of burial continues to be prevalent for almost a millennium until perhaps another major social shift occurs at the end of the CA with the communal burials in rock-cut tombs eventually evolving into large mass-graves along with the appearance of a new, more elaborate, type of chamber tomb.

Considering the spatial layout of the cemeteries, many of the larger sites are arranged into linear groups or clusters of tombs, possibly suggestive of group- or kin-affiliation. In the case of some of the larger sites, the cemetery area surrounding the tombs also incorporates small 'canals' (*canalette*) and 'pits' (*pozzi*) cut into the surface bedrock. Examples of this are found at Roccazzo, Ciachea (Fig. 12.7), Uditore, and Dosso Tamburaro, near Militello in the Val di Catania in eastern Sicily. The canal features remain a mystery but it may have served to demarcate space within the cemetery or were possibly used for drainage. The canals at Roccazzo and Ciachea appearing to connect to tombs and/or possibly basins beside tombs, suggesting they may have served a ritual function (McConnell 1997, 285; 2003b, 492).

The 'pits' are generally found directly beside a tomb entrance and probably served to house funerary offerings, with some pits having been found to contain soil, ashes, potsherds, artefacts,

axe-hammers, ochre-filled vases and seeds. The deposition of figurines and small vases, along with burnt ash in pits, at Piano Vento, as well as the anthropomorphic statuettes found associated with shaft-tombs at Piazza Leoni, suggest that ideas related to the veneration of the deceased and the underworld were probably well-established by the end of the CA (Castellana 1993, 82–83; Mannino 2008, 66; Tusa 1983, 223). Procelli connects the 'idols' from Piazza Leoni to the emergence of a 'cult of fertility' from the LCA onwards (Procelli 1991, 255). The increasing importance of fertility to the mortuary ritual may also be associated with the wide-scale use of ochre during the CA, which could have been perceived as symbolising blood and the 'life force'. The ritual use of ochre is also found in a series of a CA pits aligned with the edges of a visible Neolithic enclosure at Serra del Palco, possibly representing a foundation-deposit or demarcating an area that was subject to ritual avoidance. The base of the pits were filled with ochre, seeds, and small jars with ochre pieces, showing that ochre not only played a role in mortuary rituals but also could be combined with fruit and seeds as a ritual offering (Leighton 1999, 96; Maniscalco 1989, 540).

Figure 12.7 Two entrance slabs used to seal a tomb, found on the surface at Ciachea (PA)

It is also important to consider that ways in which these tombs were being views and accessed. Shaft tombs (e.g. Fig. 12.7) can in theory be approached from any side. While easy to approach, they are relatively difficult to find due to their inconspicuous construction (i.e. they are cut into the flat bedrock). If they were sealed, as is likely to have been the case, they would have been difficult to find without prior knowledge of their location.

In the Conca d'Oro, a stone slab (*lastra*) (Fig. 12.8) was used to close both the burial chamber

and the shaft's entrance, completely sealing it. Alternatively, evidence from Roccazzo suggests that the tomb chambers were closed with a vertically set slab and then sealed by filling the base of the shaft, possibly to its halfway point, with either limestone dust mixed with water or with a mass of rocks. This not only made it difficult to reopen the tomb, thus helping to protect it from illegitimate violation, but also allowed for the continual visibility of the graves and the chambers' sealing slabs (Tusa 2000). If they were kept clear of soil it would therefore be possible to stand and look down into the sealed tomb, making it somewhat visually accessible yet still restricted. Furthermore, a small anthropomorphic 'grave marker', in the form of a rectangular slab was found at Roccazzo. If this was placed upright beside a shaft tomb, it would add further visibility, as well as 'mark' the tomb's place within the landscape.

The overall visibility of shaft-tombs is debateable. In the areas where there are many large cemeteries, the tombs may have been more visible due to its multiple presence. The site of Tranchina, for example, is a somewhat exceptional variant of the shaft-tomb cemetery. Here, tombs were cut into a gently sloping hillside, and clustered into tight rows of tombs within a relatively small area, perhaps making them more conspicuous, including for the adjacent settlement areas, than would normally be the case with shaft-tombs. Their shape could even be interpreted as a precursor to the chamber-tomb (McConnell 1988b). In other words, because there were likely large tracts of land used for tomb-construction, even groups of sealed tombs may have been fairly visible as part of the mosaic of land-use for habitation, burial and agriculture.

Figure 12.8 Recently excavated shaft tomb, showing the restrictive entrance into the oven-shaped burial chamber at Roccazzo (TP) (photo: courtesy of Tufano 2009)

With shaft-tombs, further variables warrant consideration including the chronology of death and tomb construction, and age/gender issues in relation to access, including the possibility that specialised members of society were involved in the tomb's construction and access. A tomb could be very conspicuous or even close to a settlement, but that does not necessarily mean that access to the tomb itself was not restricted in certain ways. Tomb-accessibility from settlement areas would, in turn, have dictated how people in the past were making use of these sites and the extent to which tombs were included in the daily activities of the community. In other words, the accessibility of a shaft-tomb situated in close proximity to a possible house-structure, as is the case at Roccazzo, would be considerably different from a relatively isolated cave burial-site situated on a high, near-vertical mountain slope. Furthermore, the type of entrance to the tombs themselves could constrict or control the types of activities that took place within. Such differences in site-accessibility/approachability would ultimately determine and reflect the local community's ideology and attitude towards the deceased.

The tombs of the Conca d'Oro typify this situation, with the majority highly approachable, but with relatively difficult to access interiors. Many of these tombs have the deepest, narrowest, shafts of probably any in western Sicily, and Mannino asserts that the smallest tomb he has ever found is at the site of Ciachea in the Carini Valley, which he was only able to access when he was a skinny young man (Giovanni Mannino pers. comm.). Clearly, even with the confined space within the tombs, people in the past were both constructing and accessing these tombs for burial, reburial and ritual. Even considering differences in the stature of modern versus past populations, these apparent restrictions may have limited tomb access to certain portions of the population only (children/young adults, small adults, or perhaps ritual 'specialists'). Furthermore, it is interesting to note that in order to enter a shaft-tomb, a person would have to lower themselves vertically into the tomb as opposed to the horizontal access of later chamber-tombs, although the overall site could possibly be more accessible to an entire community than some of chamber-tomb sites which tended to be positioned on steeper hillsides. Overall though, this interplay between visibility and accessibility of rock-cut tombs continues to be enacted through variations in tomb architecture throughout CA/BA of western Sicily.

There is substantive evidence to suggest that prehistoric cultic practices on the southern Italian Mainland centred on the relationship between restriction and access to ritual places, but subterranean sites in particular (see Whitehouse 1992 for further discussion). Similar practices are apparent in the rock-cut tombs of Sicily, and the dichotomy between physically approachable tombs with restricted interior access is seen for all the tombs surveyed during the present research. The ancestors, or deceased members of the community, were kept close at hand while at the same time controlled through a series physical and ritual measures separating them from the living, ultimately allowing certain members of the community to possibly gain special status as 'ritual specialists' who also controlled access to these places.

The remains from basins, pits and 'canals' in cemeteries suggest, however, that communities were continuing to engage with these sites long after they had ceased functioning purely as repositories for the deceased. Evidence for votive offerings and food consumption indicate that not only were mortuary rituals being undertaken at these sites, but also other activities that possibly entailed ritual feasting and other communal rituals. Perhaps these were 'special-purpose' places for more open, community-driven rituals, in contrast to the more secretive and restricted underground religious practices seen at other

ritual sites (caves) in Sicily during this period. Kinship, as suggested by the mortuary evidence may have been the main organising principle in society, and tombs/cemeteries may have played a key role in a series of mnemonics to 'record', create and renew family and community histories through the seasonal return to ancestral sites. Cemeteries may have become places of evolving cultural practices that served to strengthen and negotiate community bonds in the presence of the ancestors, constructing an "idealised material map of the permanent social order", possibly in relation to seasonal movement or habitation (Bloch 1971; Giannitrapanni 2012). People would repeatedly return to these sites to renew, recreate, and maintain their social relationships and social order in a world that was becoming increasingly domesticated and territorial.

Conclusion

The present research project was established in order to advance the prevailing explanatory framework in Sicilian archaeology and to achieve gain a better sense of the development the of CA tombs in terms of both their natural and social contexts. This chapter has sought to confirm the potential of re-evaluating antiquarian sources in combination with ongoing fieldwork for gaining new data and fresh insights from incomplete and problematic archaeological data sets. In adopting a spatial-landscape approach, it has been possible to consider new variables and to fill some of the gaps in the data for the CA sites in western Sicily.

The findings of this study have brought to light a number of key patterns in the development, distribution, and utilisation of CA rock-cut tomb sites in western Sicily. First, concentrations of sites appear to be centred on specific loci in particular regions, notably the Conca d'Oro Valley in the north-west of Sicily and the Delia/Mazaro, Belice and Verdura valleys in the south-west. Sites appear to form clusters on hilly plateaus, or low rises, overlooking secondary river valleys in the south-west, or in a valley bottom near water resources in the Conca d'Oro, often with groups of possibly contemporaneous sites in close proximity, potentially indicating extended kinship-groups within a particular area. Settlement close to routes of movement between different topographic regions is also a common characteristic throughout the region.

Although there is a general paucity of reliable settlement-data for most of the Conca d'Oro, this study highlights the existence of a intimate relationship between habitation and burial areas, with particular reference to examples in south-west Sicily. This may have acted to enforce the ancestors' relationship with a specific household, and by extension, the social group's connection to a specific place in the landscape, possibly in connection with the construction of large 'long houses' and an increase in the seasonal movement of people resulting from pastoral activities. At the level of the individual tomb site, the study has also highlighted increasing elaboration in the mortuary ritual in the CA, as suggested by the development of new tomb-forms and mortuary practices, and greater control over the visibility and accessibility of tombs. Although the deceased were being kept close at hand, tombs were being progressively placed at the periphery to habitation sites, often in areas delimited by small ditches carved into the surface bedrock. An additional level of control was put in place through the use of restrictive shafts and sealed entrances to burial chambers. Increased elaboration of architectural styles over time, such as the incorporation of multiple chambers/niches, deeper entrance-shafts, and possibly decorated sealing slabs, may have resulted from a greater concern with the exhibition of individual or group identity within a communal cemetery.

This study has highlighted the potential for improving the present knowledge and understanding of the development of these important cemeteries and how they functioned at both a regional and local level. Further work is required in order to better contextualise and understand these sites within the broader sphere of Mediterranean prehistory.

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13

Journeys through the underworld in Late Neolithic Malta

Reuben Grima

The mortuary sites of Late Neolithic Malta have attracted considerable attention on account of their monumental construction and remarkable evidence for ritual practices. Past interpretations regarding the configuration and layout of the Hal Saflieni Hypogeum on Malta have tended to focus on the subterranean mimicry of above-ground temple architectural elements. The geological environment in which the Hypogeum is situated appears, however, also to have played a decisive role in shaping the site in the first instance. It is argued in this chapter that the influence of the local geology on the form and layout of the Hypogeum is more decisive than hitherto believed, and this aspect is of fundamental importance for a better understanding of the site. It is further argued that the creators of Hal Saflieni not only respected the local geology for structural reasons, but also that geological features themselves also acquired powerful symbolic connotations. The excavation of burial spaces at Hal Saflieni was itself an exploration of the underworld, a voyage of discovery of mysterious subterranean boundaries in the rock that became potent markers of cosmological boundaries.

The Hal Saflieni Hypogeum, a UNESCO World Heritage Site, is one of the most remarkable and best-preserved sites that have come down to us from Neolithic times. Hewn and carved from the 'living rock' to a depth of over 10 m below ground, it is a rare survival of the 3-dimensional creation of space during the Neolithic. The site appears to have been extended in successive stages during the 4th and 3rd millennium BC and is generally coeval with the construction of other hypogea and above-ground megalithic structures commonly referred to as 'temples'. In contrast to the above-ground megalithic structures, however, the primary function of the Hal Saflieni Hypogeum (henceforth the 'Hypogeum') and other hypogea was the burial of the deceased. Organised on three principal levels (traditionally

referred to as the Upper Level, Middle Level, and Lower Level), the Hypogeum is the most elaborate and extensive of the known subterranean burial sites of the Maltese Neolithic.

Since the discovery of the site in 1902, the labyrinthine layout of the Hypogeum and the range of decorative elements within it have astounded and perplexed generations of archaeologists (Zammit 1910; 1925). Outstanding characteristics of the site include the mimicry of above-ground architectural elements carved into the living rock and the application of red ochre to flat surfaces in the form of geometric and spiral motifs; past descriptions of the Hypogeum have focused chiefly on these two aspects of the site. More recent work has examined the availability of natural daylight in different parts of the complex and its relationship to different decorative techniques used in different zones (Pace 2000; 2004a; 2004b), and the multi-sensory experience of the subterranean environment (Skeates 2010).

A characteristic that has long been noted is that natural faulting in the rock may, in the first instance, have facilitated the excavation of the Hypogeum's chambers (Evans 1971, 44–59; Pace 2004b, 26). This characteristic is sometimes associated with the origin and earlier stages of the site's development, but given less importance when discussing the later developmental stages (e.g. Skeates 2010, 229).

A recurring theme in the literature is that the layout of the Hypogeum may appear confusing and disorderly to the present-day observer, particularly when contrasted to the generally more axial and symmetrical plans of the above-ground 'temples'. The site has been described as 'almost labyrinthine in complexity', while the particularly disorienting Middle Level is described as 'a jumbled conglomeration' (Skeates 2010, 229).

A key theme of the present chapter will be to reconsider how geological characteristics were utilised during the creation of the Hypogeum, and to consider what significance features such as geological faulting may have had for the creators of the site. It will be argued below that the geological structure of the rock is of fundamental importance not only for our understanding of the origin and early stages of development of the site, but also in that it remained an essential factor throughout its development. It will also be argued that a better understanding of how geological structure was utilised by the creators of the Hypogeum may in turn inform a better understanding of its spatial organisation. In the light of this, it may appear somewhat less jumbled to observers in the present.

Geological context

The Maltese archipelago, comprising the principal islands of Malta, Gozo and Comino, and some uninhabited islets, are geologically formed of a succession of Oligocene and Miocene sedimentary limestone deposits (Pedley *et al*. 1976).

The geomorphology of the archipelago is dominated by a fault system which follows two principal orientations (Illies 1981; Alexander 1988; Dart *et al*. 1993). In simple terms, faults that strike in an approximately south-west to north-east direction have resulted in the basin and range system that characterizses north-west Malta and the two channels that separate Malta, Comino and Gozo. Faults striking approximately south-east to north-west, associated with the Pantelleria Rift, have created the cliffs that form the south-west coast of Malta and Gozo. The interaction between faults running in these two, roughly perpendicular, directions is also responsible for the orientation and form of Malta's Grand Harbour. A valley network formed by erosion along faults following these two principal axes has since

been submerged to form the Harbour, with its principal south-west to north-east axis, leading into a series of creeks oriented south-east to north-west (Illies 1981, 159). The interaction between faults following these two perpendicular directions is visible in the Lower Globigerina Limestone at various points in the archipelago, such as Dahlet Qorrot in Gozo (Pedley *et al*. 2002, 66, fig. 86), or the fore-shore at Qui-Si-Sana, Sliema.

Situated in the Paola District of Malta, the Hypogeum was built within the Lower Globigerina Limestone deposits. The rock in the general locality is characterised by faulting and jointing along the two principal orientations noted above. A geological and structural survey of the Hypogeum in relation to water-infiltration was commissioned by the National Museum of Archaeology in 1992, primarily for conservation purposes (Ercoli 1992). As part of this survey, a large number of near-vertical faults and joints were identified running through the rock in which the Hypogeum was developed. The mapping of these features as part of the survey has greatly facilitated the present study.

Utilising geological structure in Neolithic Malta

The Neolithic inhabitants of the Maltese archipelago have left substantive evidence attesting to their understanding of the properties and structure of the local geological deposits. A mastery of stone-working appears to have culminated during the Late Neolithic, a period generally referred to as the Temple Period (c. 3600–2400 cal BC) on account of the megalithic monuments that were constructed at the time. Unprecedented in sophistication, these buildings represent an extraordinary architectural achievement that could only have been attained with a sound working knowledge of the local stone, its properties and availability. A notable aspect of the local geology that appears to have been taken advantage of is that the relatively hard Coralline Limestone and much softer Globigerina Limestone, both of which were used extensively in megalithic construction (Cassar 2010), splits readily along horizontal bedding-planes to yield megalithic blocks suitable for building (Trump 2002, 17).

At the same time that above-ground temples were under construction, subterranean complexes such as the Hypogeum were being excavated for inhumations. In several instances, natural caves were adopted and modified, including enlargement, for a funerary use. At Bur Meghez, near Mqabba, a cave comprising two long, parallel, solution hollows in the Lower Globigerina Limestone appears to have been modified and used for burials during the Late Neolithic. The report of the site's initial investigation (Tagliaferro 1911) details vertical shafts cut into the ceiling of the cave from the ground surface above. Although the cave was severely damaged during the Second World War (Braun 1946, 17), a small portion survived and was identified during the course of the present study. An examination of the feature reveals that the cave was formed along a fault plane, and that at least one of the aforementioned vertical shafts was formed along this. At Xaghra on Gozo, meanwhile, an extensive and partially collapsed series of caves situated within the Upper Coralline Limestone was adopted and developed into an extensive burial complex known as the Xaghra Circle (Stoddart *et al*. 2009, 79–82).

More extensive than either Bur Meghez or the Xaghra Circle was the Hypogeum. Not only more extensive and better preserved, the Hypogeum, as a structure, affords a detailed study of its millennium-long development. The Hypogeum is consequently the subterranean complex where clear evidence for Neolithic utilisation of geological structure is found in most abundance, a factor that will be discussed in further detail later.

Utilising geological structure at the Hypogeum

It appears that the creators of the Hypogeum utilised the geological structure of the Lower Globigerina Limestone in six fundamental ways. While in practice these modes of use are inextricably linked, and commonly occur in combination, in view of the distinct concept each appears to represent, it is useful to discuss them separately in the following paragraphs.

The ready-made wall

The most frequent use of geological features observed at the Hypogeum is the adoption of vertical, or near-vertical, fault planes for use as chamber walls. Evans's archaeological survey (Evans 1971, 44–59) and Ercoli's geological-structural study (Ercoli 1992) recorded numerous instances of chamber walls following the line of fault planes on each of the three levels of the site, indicative that this practice continued throughout the entire millennium during which the Hypogeum was developed.

The influence of fault planes on the configuration, orientation and extent of several of the chambers is readily apparent from the plan of the Upper Level (Fig. 13.1), particularly in chambers 2 and 5–8. In Chamber 6, a deep chamber traditionally described as a cistern, a fault was adopted as the north-west wall and in doing so, created a vertical full-height chamber wall – discussed in further detail below.

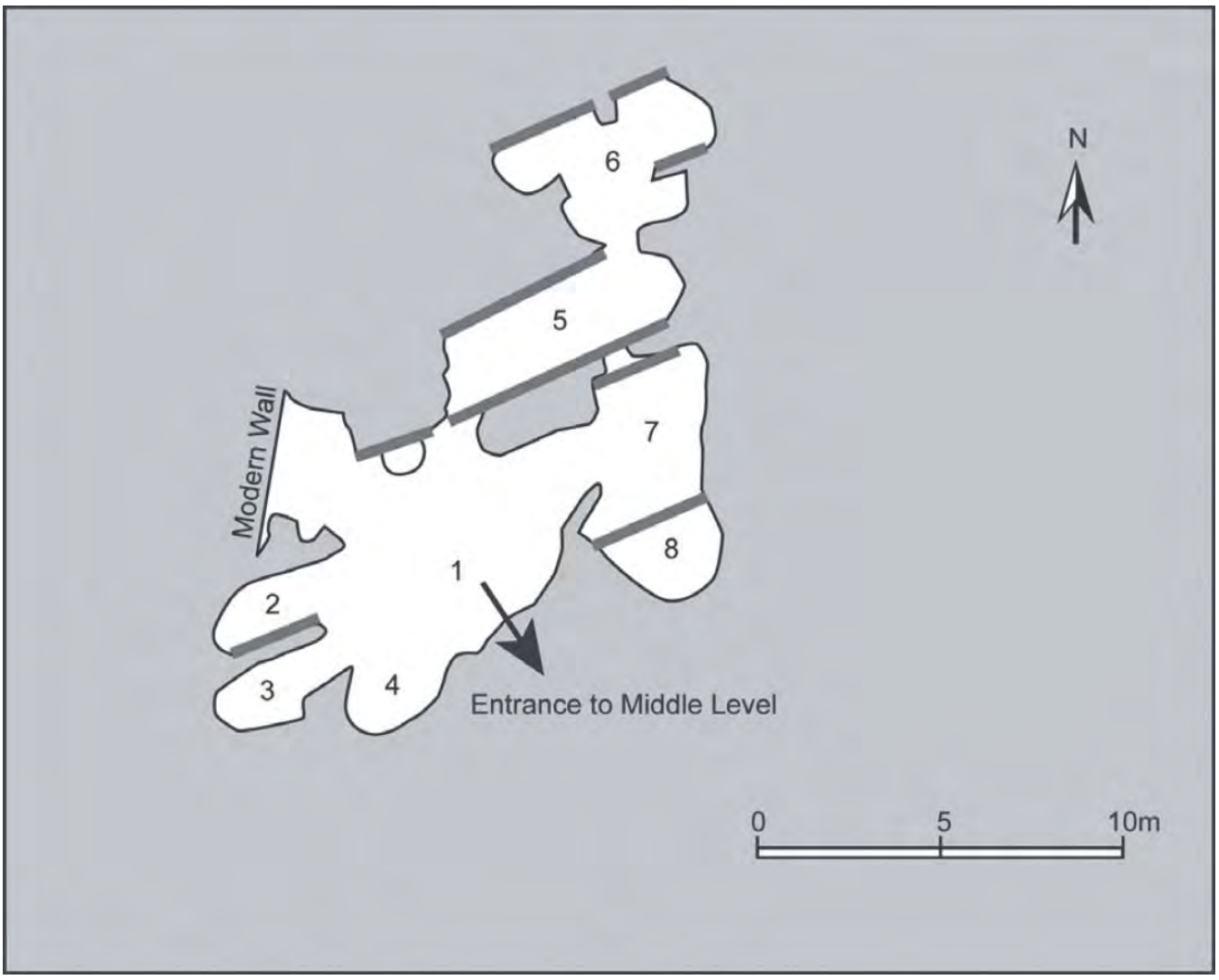

Figure 13.1 Hal Saflieni Hypogeum, Plan of Upper Level. After Evans 1971, Plan 14A. Chamber walls formed by geological faults indicated by thicker lines (based on geological information in Ercoli 1992, with minor additions)

The interrelationship between fault planes and the layout of the chambers is even more pronounced on entering the Middle Level (Fig. 13.2). The first portion of the Middle Level appears to comprise a transitional space, the floor of which is situated at an intermediate level between that of the Upper Level and the main floor-level of the Middle Level. The central chamber of this transitional space is Chamber 9, a corridor-like space connecting the two levels, with two chambers leading off on either side. This almost symmetrical arrangement is particularly pronounced in the case of chambers 13 and 14, which were hewn on either side between parallel fault-planes. The entrance to the Middle Level was further monumentalised by pairs of megaliths standing on either side of the entrance axis. This axis is effectively perpendicular to the predominant west-south-west to east-north-east orientation of the faults in the rock that defines the orientation of the lateral chambers. The creation of this monumental entrance arrangement was only possible because it was planned and executed in response to the geological structure of the rock.

The influence of fault systems on the orientation of chambers becomes particularly apparent in the Lower Level, where the majority of chambers are bound between two parallel and vertical fault-planes separated by approximately 3 m (Fig. 133). In that the chambers are formed end-to-end in the space between the two faults, the idiosyncratic plan of the Lower Level appears to be a direct result of the utilisation of these natural features.

In terms of the required labour and skills, the utilisation of geological fault-planes to form the walls of chambers would have produced efficiency gains. Perhaps the most significant of these is that it reduced the amount of rock-cutting activities and labour-intensive finishing operations. Thus, the geological weakness along a fault plane was utilised in that the volume of rock on one side of the plane was removed en bloc with the surface of the remaining stone forming a ready-made, and relatively smooth, vertical wall-surface.

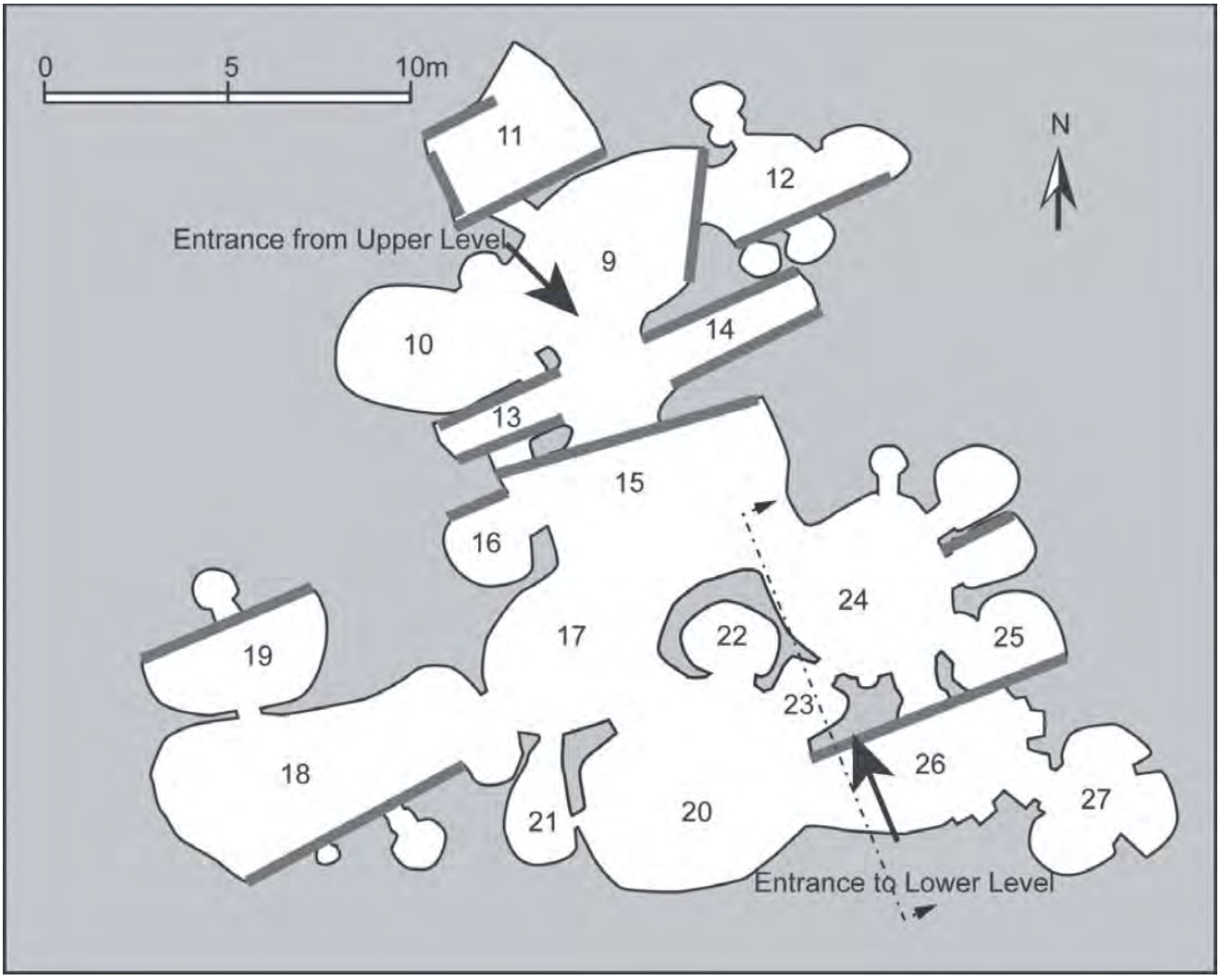

Figure 13.2 Hal Saflieni Hypogeum, Plan of Middle Level. After Evans 1971, Plan 14B. Chamber walls formed by geological faults indicated by thicker lines (based on geological information in Ercoli 1992)

The ready-made ceiling or floor

A variation on the utilisation of vertical, or near-vertical, fault planes to form walls is the employment of horizontal or sub-horizontal bedding-planes for chamber ceilings. This solution is particularly apparent in the Upper Level (Fig. 13.4), where it accounts for the greater portion of chamber ceilings. It is also present at various points in the Middle Level, for example in Chamber 11 (Evans 1971, 47) and Chamber 19 (Evans 1971, 50). In the case of Chamber 20, it has been suggested that the floor and ceiling of the chamber may respect horizontal geological features (Evans 1971, 50).

In Chamber 17, there is evidence for the technique employed to form the ceiling. The rock to be removed, in this case Globigerina Limestone, appears to have been weakened in the first instance by narrowly spaced drilling, then prising the material away from the fault plane in order to form the ceiling (Evans 1971, 49).

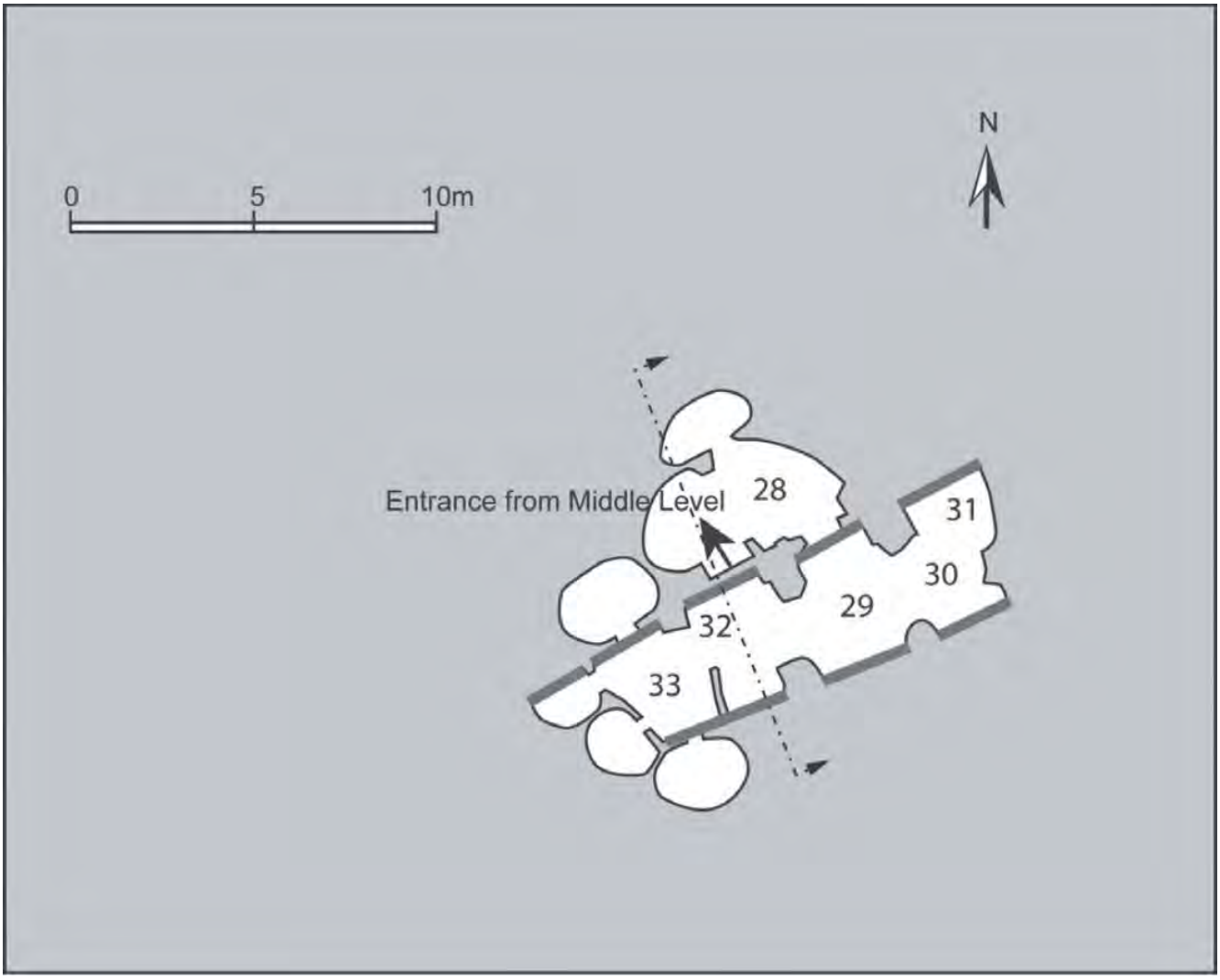

Figure 13.3 Hal Saflieni Hypogeum, Plan of Lower Level (after Evans 1971, plan 14B). Chamber walls formed by geological faults indicated by thicker lines (based on geological information in Ercoli 1992)

The practical considerations already noted in the use of fault planes as chamber walls also apply to the use of bedding planes for floors or ceilings. Beyond the basic advantages that permitted the excavators to create a smooth wall by exposing a naturally formed pre-existing surface, however, there were also important structural factors. As any quarry worker or stonemason knows, faults and bedding planes are the most likely points for a rock-failure to occur. An excavation into the rock that imposes its own pre-conceived geometry and ignores geological structure is likely to leave wedges of rock protruding from walls or ceilings, which become prone to future collapse. This is true of the vertical walls of a chamber, but more acutely so for a chamber's ceiling. An excavated space that, like the Hypogeum, respects and follows the geological structure reduces this risk considerably. Essentially, a chamber ceiling that respects the path of a bedding plane is much less likely to incorporate protruding wedges of rock that may become detached along a concealed bedding-plane.

Figure 13.4 Hal Saflieni Hypogeum, Upper Level, entrance to chambers 2, 3 and 4. Note the bedding plane that was used to form the ceiling of the chambers (photo: Daniel Cilia)

It has been suggested (Tilley 2004; Tampone 2012) that natural geological formations may have been a significant source of inspiration for Malta's Neolithic builders, particularly for monumental doorways (Tilley 2004, 94–101) and corbelled roofs (Tampone 2012, 71–72). Geology may well have played a part in the evolution of certain elements used for roofing chambers at the Hypogeum. The natural process of karst cave-formation and enlargement in limestone through progressive rock solution and ceiling detachment is well known. The forms of the voids created by these processes are largely factored by the geometry of pre-existing faults and bedding planes. These same processes control the deterioration and collapse by natural agency even in an artificially created void. In the Upper Level, some deterioration and collapse of chamber ceilings through such processes may have taken place when the site was in use or possibly after going out of use. It has been noted that Chamber 7 in the Upper Level, and Chamber 9 in the part of the Middle Level nearest to the Upper Level, incorporate some of the characteristics of a karst cave (Ercoli 1992, 15). A further example is the ceiling over Chamber 6, a deep chamber traditionally referred to as a cistern. Today, there is a sub-circular opening in the central portion of the ceiling, surrounded by successively larger rings of rock layered between horizontal bedding-planes. It is unclear to what extent the surviving portion of the ceiling, including its corbelled element, is the result of subsequent collapse or what is original work. Geology weakened by horizontal bedding-planes may produce a corbelling effect through natural processes, a factor that the Temple Period builders were in all likelihood well aware of. It is also plausible to suggest that lessons learnt in the creation of the earliest, Upper Level, of the Hypogeum were subsequently brought to bear in the planning and execution of the Middle and Lower levels.

Changes in level

It appears that fault planes were also utilised by the builders of the Hypogeum in order to negotiate a change in level between one chamber and the next. By initially cutting through a fault plane then cutting the rock to a different level than the previous chamber, it was possible to create a chamber that was higher or lower than the previous. This was a useful technique if, for example, the thickness of rock forming the roof over a new chamber was considered insufficient to allow it to be created on the

same level, or when creating new chambers below existing chambers. The technique may be observed in the transition from Chamber 7 down into Chamber 5 in the Upper Level, or in the transition from Chamber 9 down into Chamber 11 in the first portion of the Middle Level, where the latter was cut to a deeper level in order to run below the Central Space 1 on the Upper Level.

Probably the most notable example is found at the transition from Chamber 9 down to Chamber 15 in the Middle Level that, by dropping over a metre along a fault plane, completes the descent from the Upper Level to that of the main section of the Middle Level (Evans 1971, 48). The transition from the Middle Level to the Lower Level also makes ingenious use of fault planes but, in view of other innovative techniques employed, is considered separately below.

The designed interior

One of the most remarkable characteristics of the Hypogeum is the imitation of monumental architecture carved into the living rock, the most spectacular examples of which occur in the Middle Level. The sophistication and finish of these features has sometimes been contrasted with the apparent simplicity of the chambers where walls were formed by utilising natural faults. Here it will be argued that the depiction of architectural elements carved into the rock was not a departure from the utilisation of geological features but, rather, a logical progression in which novel design-solutions were added to the existing repertoire of excavation techniques.

As noted above, it is possible that some chamber ceilings in the Upper Level were carved to imitate the corbelled roof-structures of the above-ground temples (Evans 1971, 46). A variant of this is found in Chamber 6 in the Upper Level (Fig. 13.5), which is the deepest single chamber of the complex, measuring approximately 7 m floor-to-ceiling (Evans 1971, 47). Three ribs were left projecting from the walls, effectively dividing the chamber into three lobes, in an arrangement reminiscent of the broadly contemporary Xemxija Tombs, notably tombs 1 & 5 (Evans 1971, plans 24, 25 & 28). The ribs in Chamber 6 probably helped to support the ceiling, as suggested by the presence of mock-corbelling that surmounts the pillars in the room (Fig. 13.5). As already noted, the chamber also makes extensive use of vertical faults to create its sheer walls. The central rib was purposefully left projecting from the north-west wall, which is characteristically formed along a fault plane (Fig. 13.5). The conception of such architecturally-inspired solutions as the supporting ribs and corbelling was evidently not a departure from the utilisation of geological features, but went hand-in-hand with it, in a symbiosis between nature and design.

An even more convincing example of mock-corbelling is that in Chamber 15 on the Middle Level. As noted above, this chamber is carved at a lower level than the adjacent Chamber 9, which is at an intermediate height between that of the Upper Level and the main area of the Middle Level. The change in level in the floor was achieved by utilising the fault plane, as noted above. The change in the level of the ceiling was achieved using mock-corbelling formed of two successive rings. The corbelling in this case does not form complete rings, but springs at either end from the fault plane that defines the boundary between chambers 9 and 15, and appears to have been adapted in order to complement the pre-existing element of the fault plane as a single sophisticated solution. In terms of objectives, it permitted the desired change in level, while completing the imposing entrance along the monumental axis into the Middle Level. Furthermore, by respecting the fault plane, the corbelling also served to meet structural requirements. By combining the knowledge and experience gained from constructing

the above-ground temples, and of the local geology, the transition in the ceiling level was ingeniously achieved through the use of mock-corbelling which, inter alia, reduced the risk of structural failure. Essentially, the incomplete curves formed by the corbelling, which begin and end at the fault plane, created an arrangement that was least vulnerable to collapse. Conversely, the alternative of a complete ring continuing past the fault plane would have resulted in a structurally vulnerable band of rock between the corbelling and the fault plane.

The same principle appears to have been employed, albeit at a smaller scale, at the far end of Chamber 18 (commonly referred to as the ‘Oracle Chamber’). As noted above, the entire south wall of the chamber is formed by a smooth, almost vertical, fault. The lower, northern half, of the ceiling is formed by a bedding plane. In the southern half of the chamber, the builders chose to cut through the bedding plane in order to create the desired height (see Fig. 13.8). At the far end of the chamber, the connection between the ceiling and the fault forming the southern wall was, once again, resolved by the employment of mock-corbelling comprising a single tier of corbelling round from the north side of the chamber to meet the fault plane, in much the same way as the corbelling in Chamber 15 begins and ends at a fault plane.

Perhaps the most notable use of combining architectural form with natural features is the example of Chamber 26, a chamber that has acquired the time-honoured epithet ‘Holy of Holies’ on account of the elaborate use of mock-architectural elements (Fig. 13.6). The north side of the chamber is formed by a near-vertical fault. The architectural carvings on the walls are surmounted by two successive rings of mock-corbelling. As found with previous examples, the upper of these two rings begins and ends precisely at a fault plane; the lower ring meets the fault plane at its north end, but is not continued at its south end.

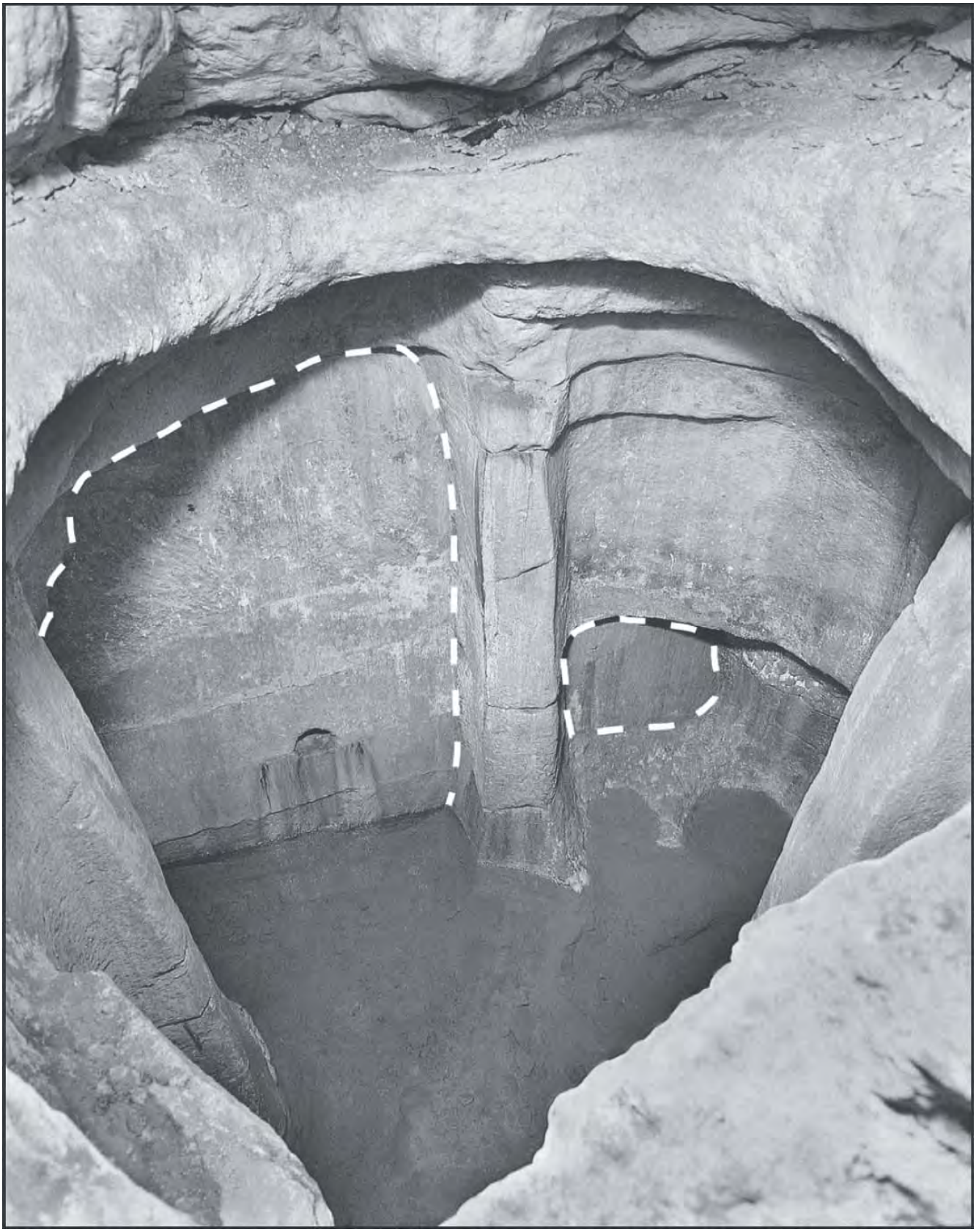

Figure 13.5 Hal Saflieni Hypogeum, Upper Level, Chamber 6. Area of wall formed by fault plane outlined in dashed white line (photo: Daniel Cilia)

In all the above instances, it is evident that consistent principles were being selectively endorsed and applied. It is also clear that the employment of mock-architectural elements, such as corbelling,

was not done purely for aesthetic reasons, as the writer was inclined to think until recently. The combination of rectilinear walls where a fault could be followed, complemented by elaborately carved concave forms where the walls could not follow a fault plane, was dictated at least as much by the desire to achieve structural stability as it was to meet aesthetic requirements.

Figure 13.6 Hal Saflieni Hypogeum, Middle Level, Chamber 26. Area of wall formed by fault plane outlined in dashed white line (photo: Daniel Cilia)

It is useful to consider a further example, Chamber 24, which is situated in the centre of the Middle Level, and which also incorporates the extensive use of elaborate mock-architectural elements. At a cursory glance, its ceiling appears to comprise a continuous ring of corbelling around the chamber. Closer examination, however, reveals that it is comprised of two segments, rather than a continuous ring. The most notable geological features in the room are two, closely-spaced, and parallel, faults that effectively divide the room into two portions. The two segments of corbelling are situated on either side of these faults. Although this arrangement is somewhat different to the examples considered so far, it suggests that the structural principle of discontinuing the corbelling across a fault plane is also in evidence here.

Advance planning

The different forms of utilisation of geological features considered so far suggest an exploratory approach for the creation of the Hypogeum's chambers. Fault planes are encountered and followed, and the configuration and extent of chambers predicated partly by geological features. Design solutions appear to evolve and to run hand-in-hand with this process, albeit with increasing sophistication as the site developed from the Upper Level to the Middle Level. In the more advanced stages in the development of the Hypogeum, however, there is evidence for some degree of planning in advance of chamber construction. It appears likely, for example, that when the decision was taken to commence Chamber 19, the excavators had the foresight that they would encounter the dipping fault-plane which they had already utilised in chambers 17 and 18, and would be able to utilise this feature to form the ceiling of a chamber, i.e. Chamber 19. The unusually low entrance leading into Chamber 19, which uses the same bedding plane as its lintel, would appear to support such an interpretation.

Possibly the most convincing example of advance planning by taking into account geological features occurs in the Lower Level, a level generally considered to represent the latest stage in the Hypogeum's development. In this case, it is argued that not only was the idiosyncratic layout of the Lower Level determined by the local geology, but also that its monumental entrance was partly planned in advance around a geological fault. The transition from the Middle Level to the Lower Level comprises a monumental entrance, a flight of six steps leading downwards, and a further mock-trilithon monumental entrance. The first entrance is cut through a fault plane that, as noted above, forms the north wall of Chamber 26. This particular entrance incorporates an unusual device: a separately worked capstone appears to have been inserted as a plug into a rebate surmounting the opening (Evans 1971, 55). It is through this entrance that a flight of 6 steps leads downwards to Chamber 28. It is possible that this monumental entrance was preceded by a less elaborate arrangement, comprising a simple aperture, in the ceiling of Chamber 28 (Evans 1971, 56). By contrast, there is no evidence to suggest any form of re-thinking with the monumental entrance leading from Chamber 28 to the remainder of the Lower Level. The orientation of this second entrance is rotated through 180° with respect to the previous entrance. A person entering the Lower Level would thus have had to turn around and proceed in the opposite direction in order to cross once again the same fault plane that was crossed in the previous entrance only, on this occasion, at a lower level (Fig. 13.7). On passing through the monumental trilithon entrance, a person would cross the fault plane that, as in Chamber 26 directly

above, was utilised as the north wall of the majority of the chambers within the inner portion of the Lower Level.

The difference in orientation of the 2 entrances suggests that the access to the Lower Level of the Hypogeum was planned in the anticipation that the fault plane encountered in Chamber 26 would also be encountered at a lower level. Essentially, while the insertion of a separate lintel in the entrance at the top of the flight of steps may have been required because it was not originally the entrance to the Lower Level, the trilithon opening from Chamber 28 leading to the remainder of the Lower Level must have been planned in advance, and in such a manner as to coincide with the anticipated location of the fault plane.

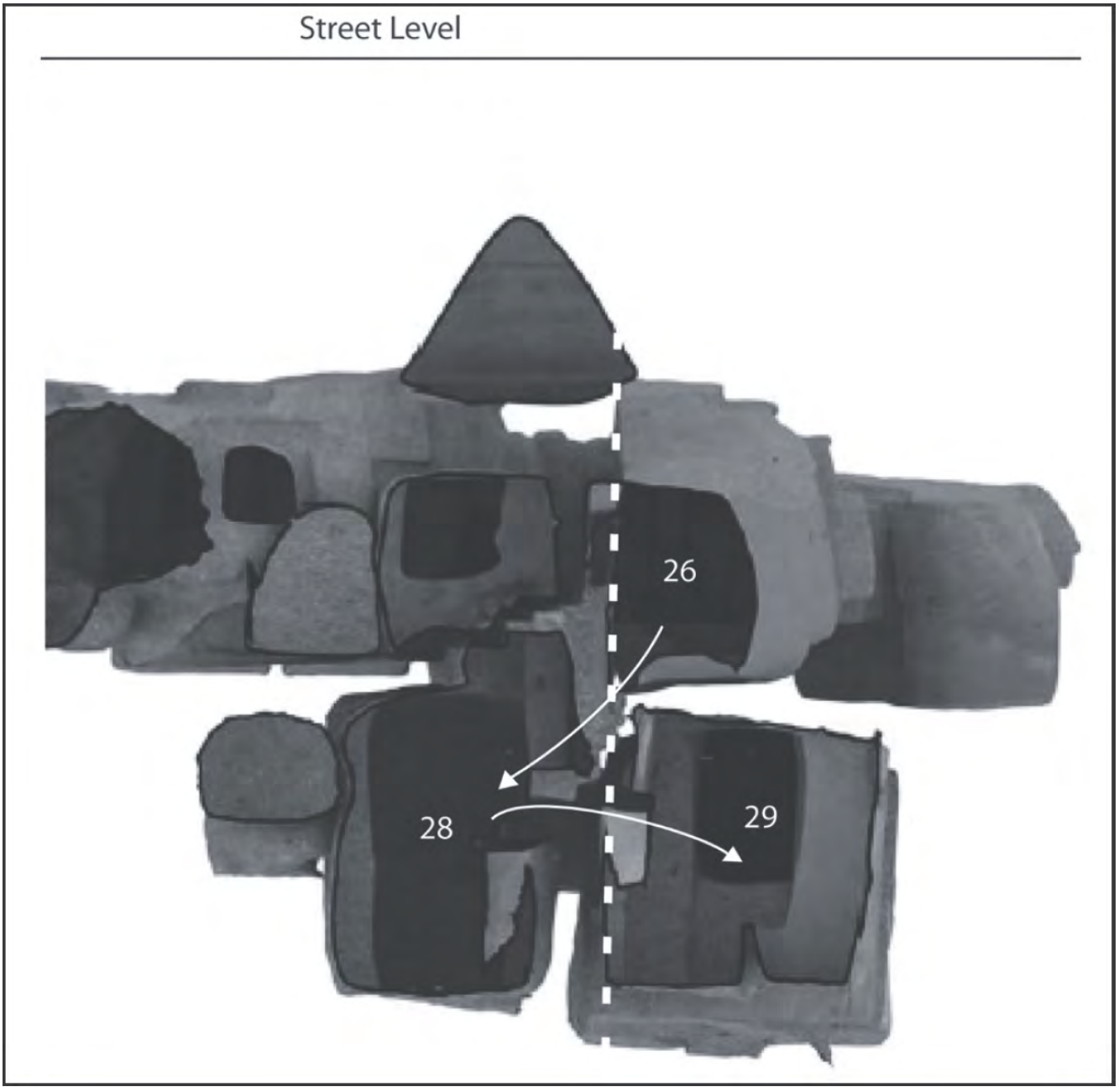

Figure 13.7 Hal Saflieni Hypogeum, Section showing access from Middle Level to Lower Level. Dashed white line indicates position of fault plane. Position of section is shown by dotted line on Figs 13.2 & 13.3 above (section generated from laser-scanned data, courtesy of Heritage Malta)

Symbolic elaboration

The increasingly sophisticated and deliberate design solutions and decisions that went into the construction of the Hypogeum demonstrate that the utilisation of the local geology was not merely an incidental consideration but, rather, was fundamental in shaping the plan of the complex and evolution of its successive levels, and also played an important part in determining how and where to introduce mock-architectural elements. A number of practical advantages in the utilisation of features encountered in the local geology have been noted and these were taken advantage of by the Neolithic builders in planning and constructing the Hypogeum. There is, however, evidence to suggest that the significance of geological features to the prehistoric builders did not relate solely to practical and structural factors. It is argued below that the local geology, including the elaboration of fault planes, also played a role in the prevailing belief systems on prehistoric Malta.

As a preliminary observation, it is plausible to suggest that the significance of the local geology was markedly different for the Neolithic inhabitants of the Maltese islands than it was for those responsible for the subterranean graves in the, much later, Phoenician and Roman periods and, indeed, for those of more recent times. The programmatic and consistent respect for the local geology in evidence at the Hypogeum affords at least a limited insight into the thought processes that lay behind its creation and evolution.

There is a danger that the ingenious utilisation of geological features in the multiple forms discussed above is read in reductionist terms as the result of a hesitant and limited technological ability. It is argued here that, on the contrary, it is perhaps the most remarkable achievement attained by the creators of the Hypogeum. As argued earlier, the Hypogeum was created through a fusion of the pre-existing geometry of natural geological features and the sophisticated artifice of carvings mimicking above-ground architecture. The very concept of the network of spaces that comprise the Hypogeum was dependent on the interrelationship of those two factors and is most telling in terms of how the creators of the Hypogeum perceived and constructed their world. Essentially, the role of design complemented the composition of the local geology. The process of excavation of the Hypogeum was not simply one of imposition of a planned form but was, equally, perhaps even primarily, one of exploration and celebration of the mysterious realm of the underworld.

Further examples at the Hypogeum reinforce some of the issues discussed above. The first example comes from the south wall of Chamber 12, which is formed by a vertical fault-plane (see Fig. 13.2). This smooth wall is perforated for a recessed, elliptical, basin along the line of a fissure in the rock. In the present, the basin is prone to fill with water (e.g. Bonnici 1989, 183–208), that has percolated through the rock and travelled along the plane of the fissure, and it is possible that this also took place in Neolithic times. It would be logical to conclude that the basin was deliberately shaped to trap and accumulate water emerging from the fault plane. A similar case can be proposed for a feature encountered by Thomas Ashby in a bell-shaped, cistern-like, artificial cavity in Chamber 13 at the Tarxien Temples (Ashby 1924, 96), and recently re-excavated by Heritage Malta. Along a fissure running around the side of a cavity, is a small recess with a raised edge which, although smaller than the Hypogeum example, also had the capacity to collect water that had passed along the fissure. As a useful comparison, subterranean sites in Italy that appear to have had a ritual function have also yielded evidence of the ritual potency that may be acquired by water that collects in specific locations and features (Whitehouse 1992). In many instances, such water appears to have been purposefully

collected and curated for ritual usage. In the context of the present discussion, the evidence that has been noted for curating such water in the Hypogeum further reinforces the case being made here. It is yet another instance of a natural phenomenon that was identified and utilised in the planning of the chambers. The natural process in this case is hydrogeological rather than geological. Such modern distinctions need not, however, correspond to meaningful categories in the Neolithic mindset. What is significant is that these phenomena were recognised by the Neolithic builders, and utilised in the creation of the site in a planned manner.

A further example of where a fault plane was put to use in an elaborate manner occurs in Chamber 18 (Fig. 13.8). As noted above, the south wall of the chamber is formed by a near-vertical fault-plane. The naturally smooth surface formed by the fault plane was carefully exposed by the Neolithic builders in a manner that left it free of any damage. In the central portion of the wall are a series of natural undulations that, as the Neolithic builders would have been aware of, only become visible when exposed to raking light, and during which they appear as a series of contrasting light and dark bands.

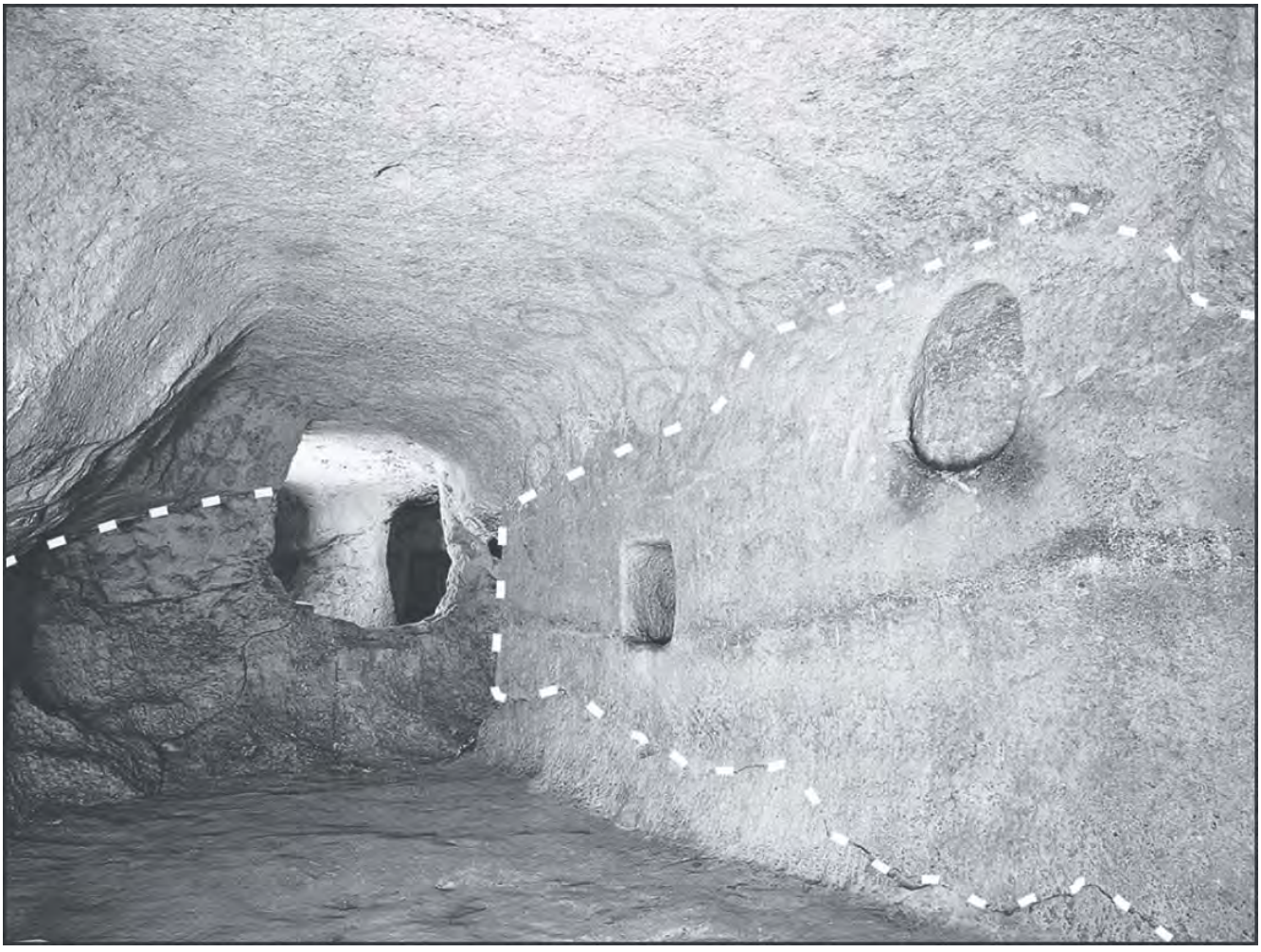

Figure 13.8 Hal Saflieni Hypogeum, Middle Level, Chamber 18. Area of wall formed by fault plane outlined in dashed white line on the right hand side of the image. Line of bedding plane used to form the ceiling of the lower part of the chamber marked by dashed white line on the left side of the image (photo: Daniel Cilia)

Two apertures cut into the fault plane on either side of the undulations are positioned at different

heights, suggesting they were purposefully located in order to avoid them. The innermost of the apertures is a niche-like recess cut through the plane of the fault, approximately 1.5 m above floor level. At the inner reaches of the chamber, the fault plane is exposed to a greater height and the niche is situated in the centre of this higher portion (Fig. 13.8). In view of the acoustic properties of the niche (Devereux & Jahn 1996; Devereux 2009) Chamber 18 is commonly referred to as the 'Oracle Chamber'. Notwithstanding whether or not acoustic properties observable in the present were significant during the Neolithic, it seems probable that the niche served as an important focus within the chamber. The meandering red-ochre ceiling-decoration does not appear to have been applied to the walls of the chamber, or within any connecting chambers. Within the 'acoustic' niche, however, 3 circular areas of red-ochre pigment were applied to its rear wall (Evans 1971, plan 14C). The increased height to which the fault plane is exposed in this portion of Chamber 18 suggests that the niche was carefully planned even when the chamber was still under construction. The painted decoration within the niche reinforces the notion that this deliberate penetration through the plane of the fault, which is otherwise respected on the surrounding wall, appears to have been designed specifically to serve as an attention-focussing device (Renfrew 1985), perhaps the principal focus of the chamber. If it is accepted that the acoustic properties of the wall-niche in Chamber 18 were realised during the Neolithic, the feature serves as an example whereby the local geology was utilised beyond structural properties to create a potent multi-sensory experience.

A third example is the aforementioned entrance to the Lower Level where, it will be argued, the use of geological features and the way they were experienced allow a glimpse of the significance that such features may have acquired. As discussed above, the manner in which the entrance was configured so as to rotate persons descending to the Lower Level through 180°, passing through the same fault plane twice, the second time at a deeper level, was ingeniously devised by utilising the local geology (Fig. 13.7). It should be emphasised again that the monumental elaboration of the two successive transitions through the fault plane required considerable investment of effort, skill, and planning. As noted above, in the upper entrance that penetrates the fault plane in the first instance, a separately worked lintel was inserted in a purposely-cut rebate above the entrance. The second entrance that leads back through the same fault plane is formed with a mock-trilithon entrance (Fig. 13.9). The evidence would suggest that embellishing the entrance with monumental qualities was no afterthought. In order to retain sufficient depth for the mock-architectural relief carving, it was necessary to accurately gauge in advance the thickness of the rock for retention between chambers 28 and 29, even before Chamber 29 was cut, or the fault plane was reached and exposed within the latter chamber. The entrance can, perhaps, be considered as the most convincing example at the Hypogeum for the innovative and well-planned utilisation of a fault plane. Essentially, the configuration of the entrance employs an intricate device in order to emphasise the importance of the transition across the fault plane.

Permeable walls

The examples discussed above point to an ever-increasing employment of the local geology in the creation of the Hypogeum. Considered collectively, the evidence affords insights in terms of how features of the local geology were perceived and given significance by the inhabitants of Neolithic Malta.

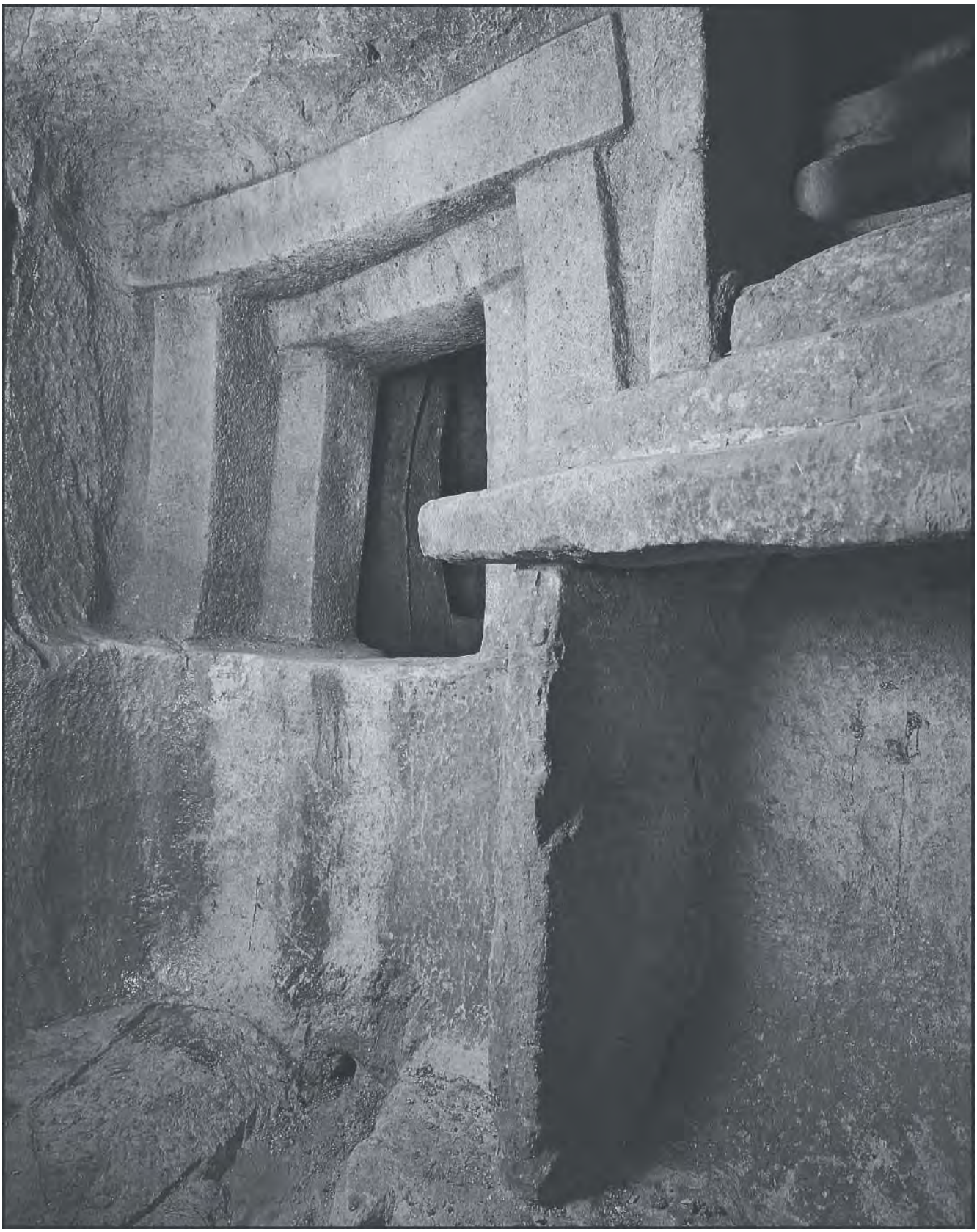

Figure 13.9 Hal Saflieni Hypogeum, Lower Level. Chamber 28. The steps leading down from Chamber 26 in the Middle Level are visible on the right. The monumental portal into Chamber 29 is visible on the left (photo: Daniel Cilia)

The literature concerning the cosmological beliefs throughout the Neolithic world generally

advocates a tiered system incorporating realms of the living and of the dead (Lewis-Williams & Pearce 2005, reviewing earlier work), partly reified in the manner in which such realms were reflected in the employment of architectural space (e.g. Parker Pearson & Richards 1994a; 1994b).

In the Maltese context, some of the characteristics of the above-ground temples that are coeval with the construction of the Hypogeum have been discussed in this respect. A notable characteristic of the temples is the elaborate spatial boundaries that were created and the control of access that was maintained across those boundaries (Stoddart *et al*. 1993). It has been suggested that the spatial-boundary systems may have been instigated in order to reflect and reify the islanders' beliefs concerning cosmological order, and that movement across and performances within these spaces were a form of engagement with, and mediation of, cosmological concerns (Grima 2001; 2003; 2005). Funerary sites also appear to have played an important role in the construction of the islanders' cosmology. In the most comprehensive model that has been put forward to date to encompass the available evidence for cosmology in Neolithic Malta, the realm of the living is mirrored by an underworld comprising the realm of the dead (Malone & Stoddart 2009, 376, fig. 14.14). This model would suggest that the practice of constructing subterranean funerary complexes was a form of engagement with a perceived underworld.

Taking into account a number of Neolithic case studies from different parts of the world, it has been persuasively argued that buildings were sometimes used to embody cosmological beliefs through the creation of 'permeable walls' (Lewis-Williams & Pearce 2005, 88–122). On the basis of the known evidence for treatment and elaboration of walls at Çatalhöyük, for instance, a case is made that walls were:

> thought of as permeable interfaces between people in the building…and a spirit world that lay behind the walls. They were like 'membranes' between components of the cosmos; behind them lay a realm from which spirits and spirit-animals could emerge and be induced to emerge. (Lewis-Williams & Pearce 2005, 112)

The relevance of this interpretation in terms of the present discussion will be immediately apparent. Before pursuing the point further, however, it is useful to make some observations regarding the treatment of boundaries at the Hypogeum. Here, as with the coeval above-ground temples, there appears to be a recurring concern with the creation of carefully marked boundaries that could be crossed in meaningful ways. But, in contrast to the above-ground temples that comprised realm of the living, the Hypogeum appears to have been primarily concerned with the realm of the dead.

This difference in the Hypogeum's cosmological status may be reflected in the variation observable in the iconographic repertoire encountered at the complex and at other funerary sites. In terms of the Neolithic Maltese repertoire of symbols and motifs, a design that appears to be specific to funerary sites is the chequerboard motif. While not yet recorded at any of the coeval above-ground temples, this motif has been observed repeatedly in the form of pottery and wall decoration in subterranean funerary contexts. At the Xemxija tombs, the chequerboard motif was found incised on two Ggantija-phase (c. 3600–3100 BC) pottery bowls from Tomb 3 (Evans 1971, 114, fig. 16), and also found on several Ggantija-phase vessels at the Xaghra Circle on Gozo (Malone *et al*. 2009, 227, fig. 10.8).

At the Hypogeum, a chequerboard motif is found painted on walls at two locations in the Middle

Level in relation to the boundary between chambers 20 and 24, and in relation to the transition between the Middle and Lower levels. One example, with the dark chequers painted in red and the remainder left as natural rock, is situated in the small transitional Chamber 23, which connects chambers 20 and 24, and that also incorporates a blocked-up opening leading to the Lower Level. A further, more extensive, example occurs a short distance from the last example, on the wall separating chambers 20 and 24. More specifically, it is situated in Chamber 24, between the two apertures that lead respectively into chambers 23 and 22—two small chambers that in turn link with Chamber 20. In this case, the dark chequers are painted in black pigment, with the remainder left as the natural rock (Evans 1971, 53).

Another possible instance of a chequer-board motif from the Hypogeum may be presented by the terracotta figurine known as the 'Sleeping Lady'. Although it is perhaps the most celebrated single find from the entire site, one detail somehow appears to have escaped discussion in the published literature. Early photographs (Bradley 1912, fig. 15; Zammit & Singer 1924, pl, ix; Ugolini 1934, Tav. xi; 2012, Tav. xi) of the figurine distinctly show a series of dark and light patches on her skirt, which may be read as a chequer-board. The pattern may still be made out today on the original, however scientific analysis will be required to confirm whether this is in fact a deliberately painted pattern, or the result of accident.

The locations at which chequerboard motifs have thus far been found suggests an association with death, as has been argued elsewhere (Vassallo 2001, 45). It also suggests an association with boundaries and transitional spaces within the Hypogeum. The selection of the motif is particularly intriguing in that the grid, or lattice, is a geometric image commonly generated within the human optic system, known as entoptic phenomena, and often associated with altered states-of-consciousness (Lewis-Williams & Pearce 2005, 46–59). In the present context, the use of the chequerboard motif suggests a concern with mediating the boundary between the realms of the living and the dead. The spatial association with boundaries and transitional spaces at the Hypogeum further suggests that such boundaries were possibly associated with cosmological boundaries between the different realms in a tiered cosmos, and that movement across these physical boundaries may have been associated with cosmological travel (cf. Lewis-Williams & Pearce 2005, 100).

Bearing these observations in mind, it is worth returning to the use and elaboration of fault planes at the Hypogeum. The purposeful utilisation of these pre-existing geological interfaces, and the increasingly sophisticated devices that were employed to focus the attention on them, suggests they were adopted as 'permeable walls' associated with cosmological boundaries. The fault planes at the site of the Hypogeum were ideal for such a purpose, arguably even more so than the examples that have been cited from the built walls at Çatalhöyük, because they did not need to be artificially created, but rather to be discovered and revealed. In the Neolithic mindset, these faults were the very warp and weft of the underworld itself, which were not simply acted upon by human agents, but may have been imbued with a potent agency of their own. Considered in this light, the Hypogeum was a vast device to locate the dead in their proper place within the tissue of the underworld, and to safely mediate the dangerous boundary between the realm of the living and the spiritual realm. In this reading of the evidence, the painted niche cut through the fault plane in Chamber 18 may have served as a device to reach across these cosmological realms. The most elaborate example comprises the entrance arrangement to the Lower Level, where the deliberately planned double transition through a fault plane

is monumentalised by 2 successive megalithic portals, to become a cosmological gateway through the boundaries of the underworld, into the realm of the dead.

Conclusion

The exploration and utilisation of the local geology was integral to the concept and creation of the Hypogeum. Geological features were not merely utilised for practical convenience, but were themselves an important focus. The spaces created within the Hypogeum were not simply influenced by the existence of geological features, but were designed and executed around those features. The treatment and elaboration of fault planes suggests that they were themselves one of the very reasons for the creation of the Hypogeum. In the Neolithic mindset, the shaping of spaces between and around geological features was a form of exploration of the underworld, and crossing through those features was a form of cosmological travel into the realm of the dead.

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14

Searching beyond the artefact for ritual practices: evidence for ritual surrounding the unclothed human body on prehistoric Malta during the temple period

Andrew Townsend

The evidence for ancient ritual and ceremonial practices is widespread in the archaeological record. A vast array of objects indicate that ritual enactment took place within symbolic universes centred on the human cycle of birth, life and death. A body of evidence frequently associated with ritual by archaeologists is 3-dimensional anthropomorphic figures, many of which appear to be depicted in the nude. Using the art of Temple Period Malta (c. 4100–2400 BC) as an example, it is suggested that nudity may have held special significance for some prehistoric societies to the extent that it possibly comprised an ideological component of ritual enactment itself.

> ‘Nudity is the more general word and means, simply, the absence of clothes. Nudism is more specific and refers to social nudity in the context of an organized group or cult.’ (Ilfeld and Lauer 1964)

The American Anthropologist Loren Eiseley observed that islands are apt by their seclusion to offer ‘doorways to the unexpected’ (Kirch 1980, 39). On a not dissimilar note, British anthropologist Marshall Sahlins employed the term ‘esoteric efflorescence’ with reference the remarkable material culture found on the Pacific island of Rapa Nui (Easter Island) (Sahlins 1955).

Situated in the central Mediterranean, the Maltese islands also played host to an episode of profound cultural expression during what has become known as the Temple Period (c. 4100–2400 BC). The processes that took place on the islands appear to be unparalleled anywhere in the Mediterranean and are thus regarded as uniquely Maltese.

The Maltese Temple Period is chiefly characterised by the surge in cultural activity that took place entailing the construction of stone-built temples and production of art. The socio-cultural apogee appears to have taken place during the final, Tarxien phase (c. 3100–2400 BC), during which productivity appears to have reached staggering proportions. Of particular relevance for the present volume is the convincing evidence for ritual activities that appear to have been conducted above ground (the living world) and below ground (the ancestral world) (Robb 2001, 191; Tilley 2004, 87–145).

A notable characteristic of the Temple Period is the rendition of the human (anthropomorphic) and animal (zoomorphic) forms, manifested in relief carving and 3-dimensional imagery (Gregory 2005; Malone 1998; 2008; Malone & Stoddart 1998; Malone *et al*. 2009; Pace 1994; Trump 1963; Zammit & Singer 1924).

A core endeavour of this chapter will be to address what appear to be contrasting levels of bodily exposure depicted in the anthropomorphic figures and how this possibly sheds light on the nature of Temple Period ritual activities. In addition to levels of bodily exposure, other observable human traits are commonly depicted including gesture (Gombrich 1966; Labarre 1947–1948; Morris *et al*. 1981), posture (Hewes 1955; 1957; Scheflen 1963) and hairstyle (Hallpike 1969). Such elements of interpersonal communication (Danziger 1976) provide a useful platform for discussion when attempting to make inferences regarding the artistic function of the objects (Townsend 2007).

The ability of archaeologists to ‘reconstruct’ ritual remains an area of intense theoretical debate (Barrowclough & Malone 2007; Brück 2007; Gibson & Simpson 1998; Howey & O’Shea 2009; Insoll 2004; Kyriakidis 2007; Lewis-Williams & Pearce 2005); it is contended later that there are observable formal properties (Barnard 2001) of prehistoric Maltese art that facilitates the crossing of some entrenched theoretical boundaries and, in due course, the attainment of higher-level interpretations i.e. to transcend meta-level interpretations.

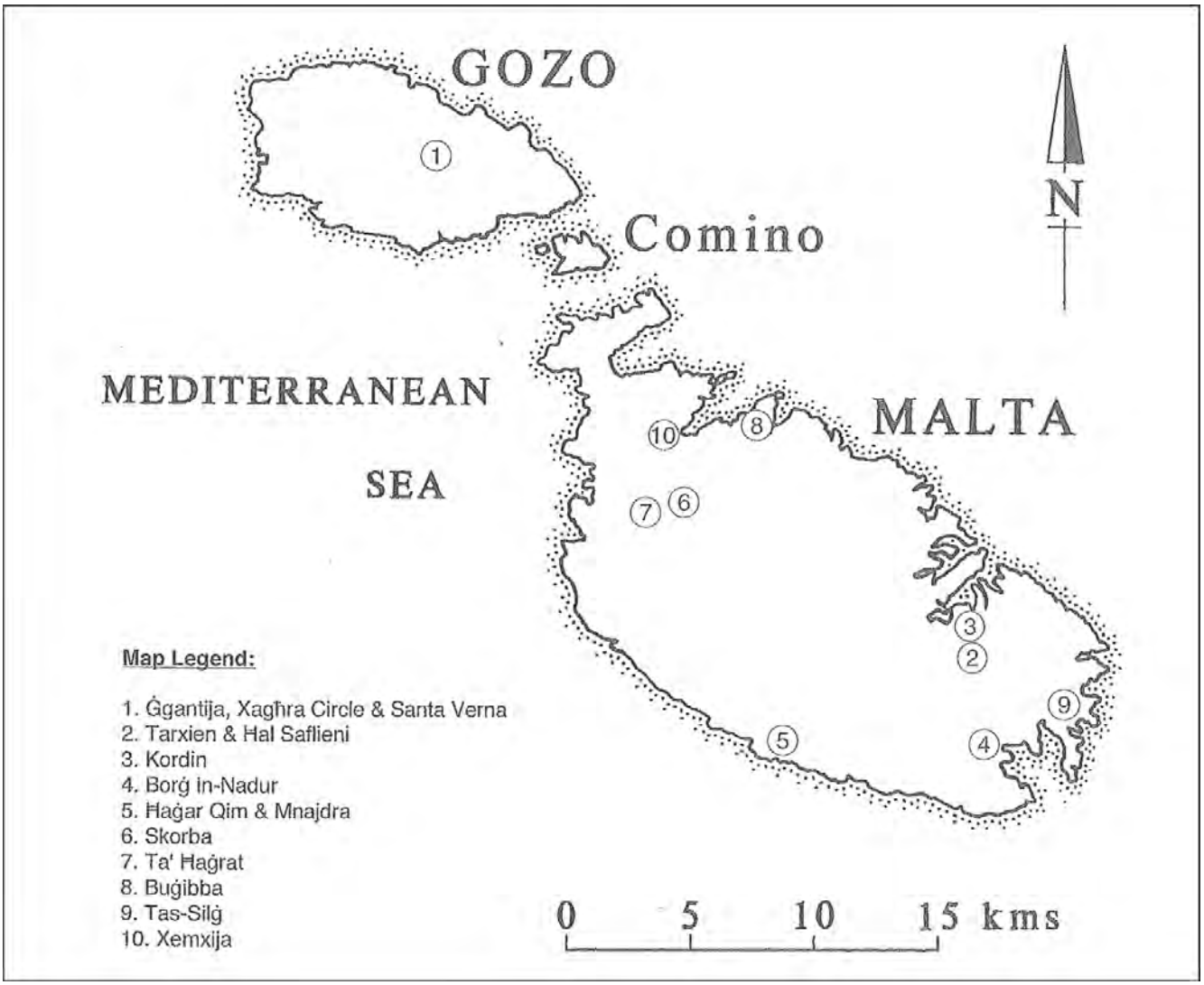

Figure 14.1 The Maltese Islands with location of selected sites indicated

The Maltese islands: geographical setting

Situated some 80 km to the south of Sicily, the islands comprise a relatively small group of which Malta and Gozo are the largest (Fig. 14.1). In area, Malta measures 28 × 13 km and Gozo only 14 × 7 km. Of lesser prominence are the islets of Comino, Cominotto and Filfla. The combined area of the islands is only some 314 km^2.

Although the islands are relatively remote, the summit of Sicily's Mount Etna can be seen in the distant north on clear days (Trump 2002, 15–16; Stoddart *et al*. 1993, 5); atmospheric and climatic conditions permitting, the coastline of Sicily is also visible (N. Vella, pers. comm.). The geology of the islands comprises mainly two types of limestone, clay and sand (Bowen-Jones *et al*. 1961; Pedley *et al*. 2002).

Due to their relative isolation from insular and mainland Italy there has been some considerable debate as to whether or not the islands evolved as a 'closed system' or *in vacuo* (Eriksen 1993; Kirch 1986) during the prehistoric period (Robb 2001; Stoddart *et al*. 1993; Townsend 1996; Trump & Trump 2002).

Archaeological background of the Maltese islands

The earliest evidence for a human presence on the islands is presently associated with arrival of farming communities, probably from southern Sicily, at c. 5000 BC, as denoted by the Early Neolithic period (Ghar Dalam phase). The latest research (Malone 2008; Malone *et al*. 2009) suggests a continuum of occupation from the Early Neolithic to the Temple Period (Table 14.1).

Although believed to have their roots in the earlier stages of the Temple Period, current thinking maintains that the majority of extant temple complexes evolved in the Tarxien phase, in other words, from c. 3100 BC (Malone *et al*. 2009).

The Temple Period

The Temple Period is manifestly characterised by stone-built edifices ('temples'), subterranean mortuary complexes (hypogea) carved out of the bedrock and an extensive repertoire of artefacts, many of which betray convincing cultic associations (Malone 2008).

Table 14.1 Chronological summary for later Maltese prehistory

Period	*Phase*	*Chronology* BC
NEOLITHIC	Għar Dalam	c. 5000–4300
	Grey Skorba	c. 4500–4400
	Red Skorba	c. 4400–4100
EARLY TEMPLE PERIOD	Zebbuġ	c. 4100–3700
	Mġarr	c. 3800–3600
	Ġgantija	c. 3600–3100
FULL TEMPLE PERIOD	Tarxien Saflieni	c. 3100–2400
CULTURAL LACUNA		c. 2400–2000
EARLY BRONZE AGE	Tarxien Cemetery	c. 2000–1500
MIDDLE BRONZE AGE	Borġ in-Nadur	c. 1500–700

After Malone *et al*. (2009, table 1.1)

As already noted, there is evidence to suggest that the cultural processes that culminated in the complex structures of the Tarxien phase had their roots earlier in the Temple Period, as denoted by the construction of rock-cut tombs during the Zebbug phase (Baldacchino & Evans 1954; Malone *et al*. 1995a). Such tombs may have set the tone for later developments although this is a matter for debate. It is evident, however, that the known temple structures are not single-phase constructions but appear to have evolved, attaining considerable complexity-of-layout in cases (Stoddart *et al*. 1993). Their configuration and embellishments strongly suggest that they served as the foci of ritual activities (Bonanno 1995; Evans 1976–1977; 1996). The Brochtorff-Xaghra Circle on Gozo, one of two confirmed hypogea on the islands, has produced convincing evidence for ritual activities associated with the disposal of the dead (Malone & Stoddart 1996; Malone *et al*. 1993; 1995a; 1995b; 2009; Stoddart *et al*. 1993; Trump 1995).

In contrast to the ample evidence for temple construction that for settlements is, however, relatively lacking, although would appear to exist (Malone *et al*. 1988; Malone *et al*. 2009, 42–56). In some respects, this obviously makes the proposition of inferences relating to the full spectrum of Temple Period life somewhat problematic.

The events and/or processes that heralded the apparent sudden end to the Temple Period in c. 2400 BC is at present an unresolved issue. The archaeological evidence, however, indicates the appearance of an entirely new cultural repertoire on the islands as denoted by the Tarxien Cemetery phase (Evans 1956; Pace 1995; Nixon 1998), the first cultural episode of the Maltese Bronze Age (c. 2000–700 BC). Whether or not there was a temporal lacuna separating the Temple Period from the Bronze Age (Table 14.1) remains a topic of some debate (Malone 2008, 87; Malone *et al*. 2009).

Temple Period Art

Artistic creativity during the Temple Period included the production of two and three-dimensional imagery on an unprecedented scale (Gregory 2005; Malone 1998; 2008; Malone & Stoddart 1998; Malone *et al*. 2009; Pace 1994; Trump 1963; Zammit & Singer 1924).

The two-dimensional imagery generally comprises zoomorphic and ‘abstract’ designs carved in relief, although the use of red ochre (Maniscalco 1989; Marshack 1981; Wreschner 1980) was also employed, for example, with the spiral motifs painted on the walls of the Hal Saflieni Hypogeum (Agius 1966; Morana n.d.; Pace 2000; 2004). What appears to be the façade of a temple was also carved in relief at Mnajdra (Evans 1971, pl. 12.1).

The production of 3-dimensional art comprised an array of objects fashioned from stone or clay, although now long-perished organic materials would no doubt have been employed too. A number of objects appear to have comprised furnishings for the temples such as the so-called ‘floral alter’ from Hagar Qim (Evans 1971, pl. 41.8). There were also small ‘models’ of the temples themselves such as those found at Tarxien and Ta’ Hagrat (Evans 1971, pls 33.11–12 & 47.7–11). As noted earlier, the majority of objects would betray strong cultic associations. Probably the most prominent aspect of Temple Period artistic creativity is figurative work especially in the human (anthropomorphic) and, albeit to a lesser extent, animal (zoomorphic) forms (Gregory 2005; Zammit & Singer 1924).

Artistic creativity was, however, manifested in the form of ceramic containers (Trump 1996).

An assessment of the anthropomorphic imagery by Malone *et al*. (1995b) suggests that the figures can be assigned to three essential categories: statues, statuettes and figurines. The statues (Fig. 14.2)

are considered to be ‘fixed’ in the sense that they are likely to have remained in one location for the majority, if not all, of their functional life. The statuettes (Fig. 14) are considered to be ‘semi-portable’ in that they could be moved with relative ease. The figurine category (Fig. 14.4) could easily been transported, including being carried with ease and minimal effort, or even worn on the person.

Additional consideration suggests further sub-categories relating to contrasting levels of bodily exposure, as proposed in Table 14.2.

In addition to the figures, other objects would appear to be a symbolic reference to the human anatomy, notably those of distinctly phallic form. Such objects occur as individual phalluses (Evans 1971, pl. 51.2–3) or as groups, referred to as ‘phallic niches’ (Evans 1971, pl. 50.9–11). As with the anthropomorphic figures, the concept of physical scale appears to have been a factor in their production; in addition to the models, much larger phallic imagery was produced such as the betyl uncovered at the Brochtorff-Xaghra Circle (Stoddart *et al*. 1993, fig. 4; Malone *et al*. 2009, fig. 8.66, a,c,d) and large architectural stone of phallic form at Hagar Qim (Evans 1971, pl. 6.2). But it was not only the male anatomy that was replicated in the temples; a niche arrangement at Hagar Qim is possibly a reference to the female form (Evans 1971, pl. 9.1).

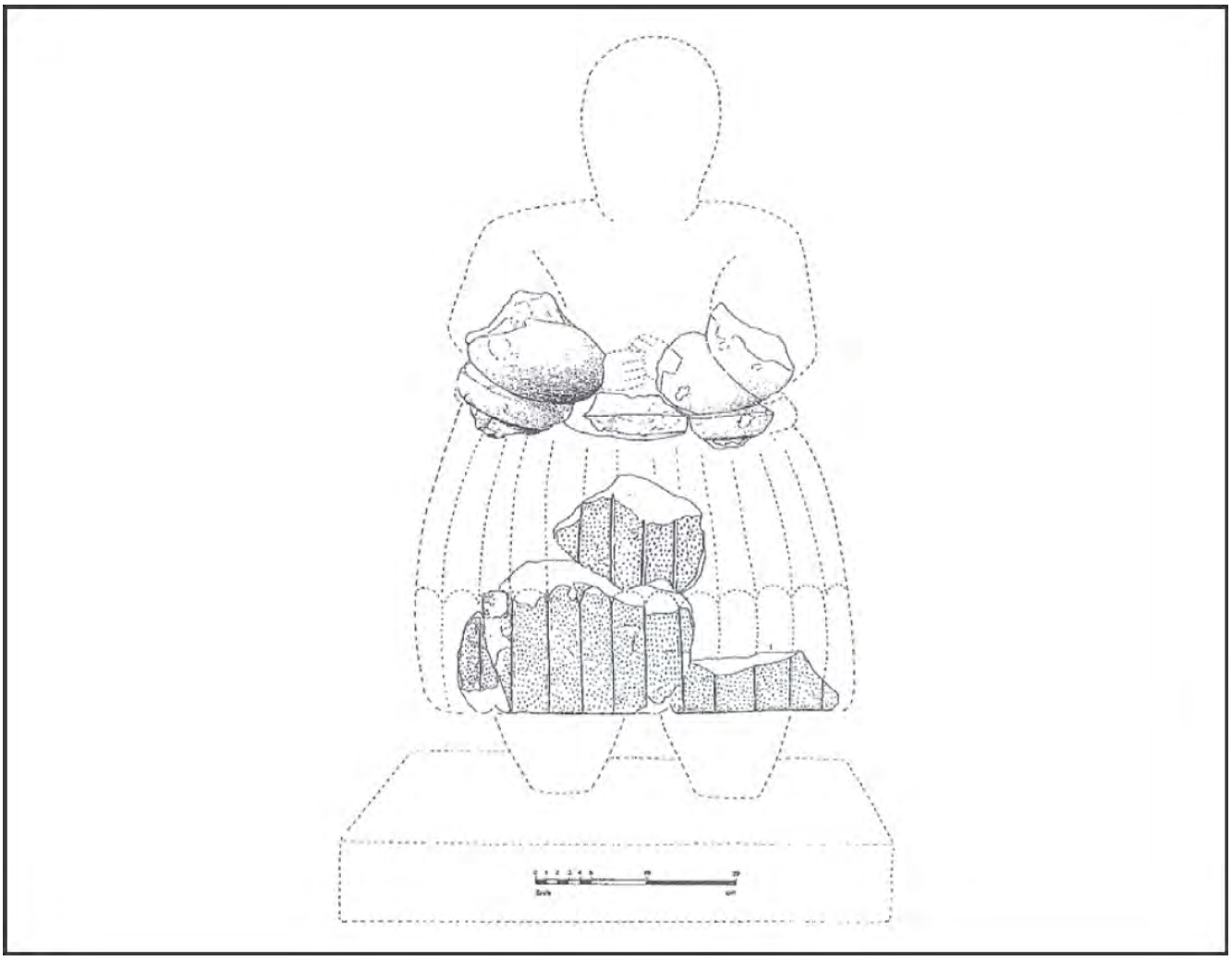

Figure 14.2 Artistic reconstruction of limestone anthropomorphic statue based on fragments excavated at the Brochtorff-Xaghra Circle on Gozo. Scale (200 mm) as indicated (drawing: Ben Plumridge)

It is axiomatic from studying the evidence that the human form played a central role in Maltese Temple Period artistic creativity, not only in terms of the entire human body, but also symbolic references to the human body, and contrasting levels of bodily exposure (see also Hayden 1998).

How does this inform us regarding the possible nature of ritual activities that took place on the islands?

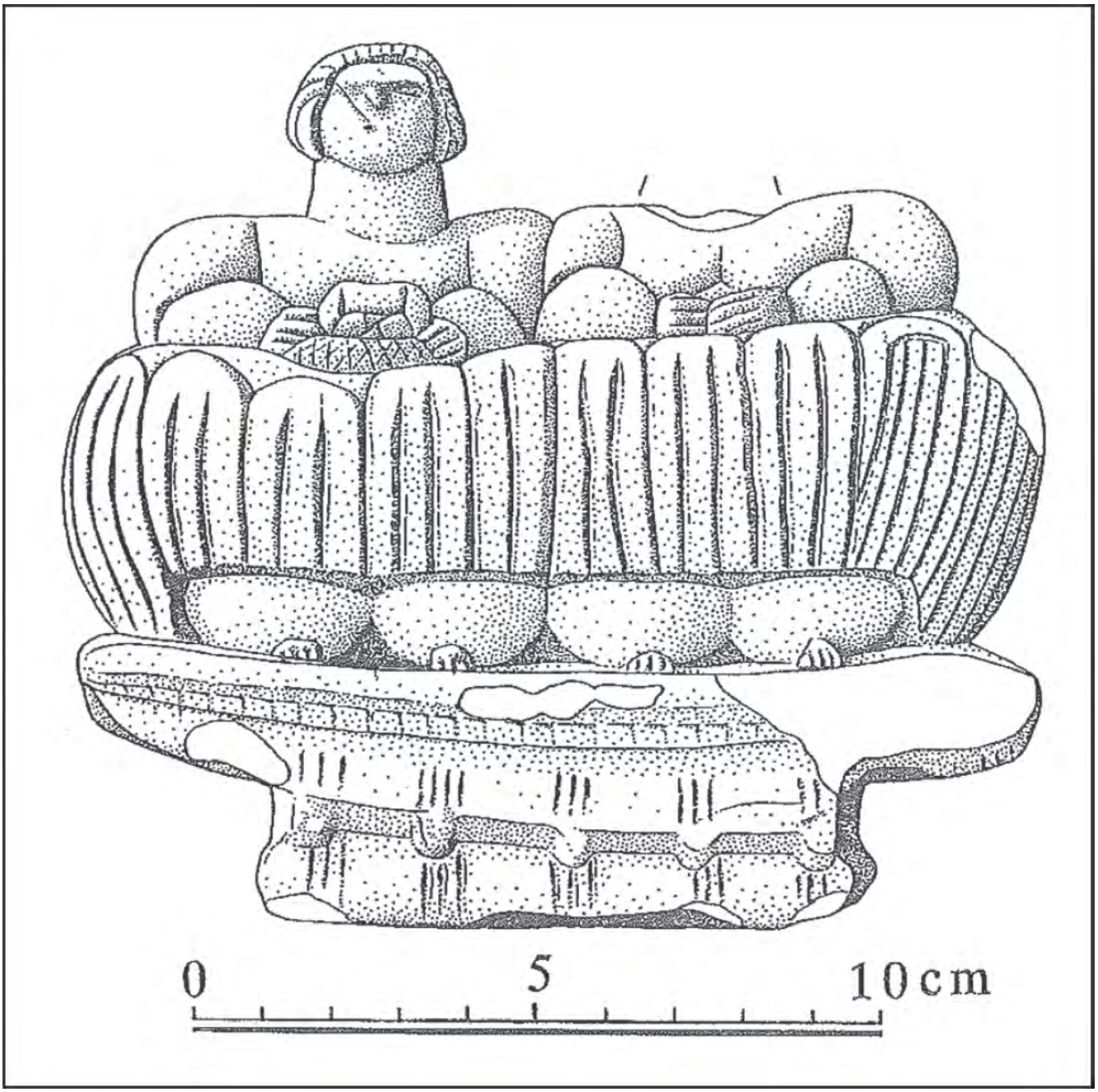

Figure 14.3 Limestone anthropomorphic multiple-figure statuette excavated at the Brochtorff-Xaghra Circle on Gozo. Scale as indicated (drawing: Steven Ashley)

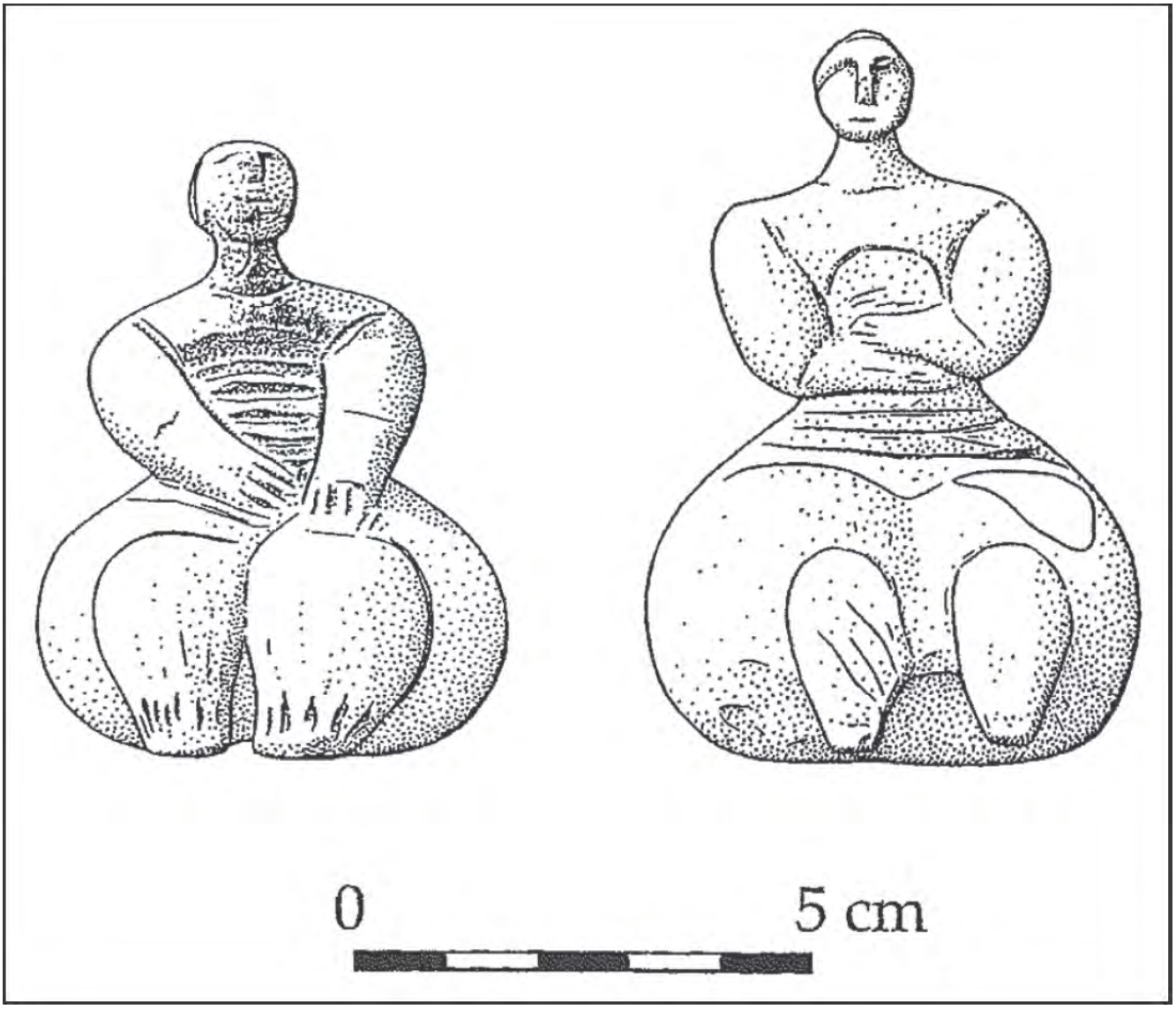

Figure 14.4 Two ceramic anthropomorphic figurines excavated at the Brochtorff-Xaghra Circle on Gozo. Scale as indicated (drawing: Steven Ashley)

Evidence for Temple Period ritual

Given the nature of the evidence available for the Temple Period, it would be difficult to entertain the idea that ritual was not an inherent aspect of the activities that took place. The temples and hypogea provide compelling evidence for this, not only in terms of their configuration, but also the paraphernalia that has been recovered from them, and in the case of the hypogea, convincing evidence for ritual treatment of the deceased (Malone & Stoddart 1996; Malone *et al*. 1993; 1995a; 1995b; 2009; Stoddart *et al*. 1993; Trump 1995).

Table 14.2 Figurine categories and sub-categories

Category	*Sub-category*
Figurines (Malone *et al*. 1995b):	— Nude
Category 3)	
Statuettes (Malone *et al*. 1995b):	— Nude
Categories 2a & 2b)	— Partially clothed
Statues (Malone *et al*. 1995[b]:	— Partially clothed
Category 1)	— (?)Clothed

A number of characteristic features of the temples have been identified that suggest a role in ritual enactment, not least the aspect of access/entry and egress/exit, and the resultant concept of inclusion/exclusion that has been inferred from this. As noted earlier, the internal layout of the above-ground temples appears to have become increasingly complex through time as modifications were made (Stoddart *et al*. 1993). In the case of the Hal Saflieni Hypogeum, what started out as a relatively simple concept was developed through time into a labyrinth reaching ever-further down into the depths of the earth.

Some of the temples have also produced objects of 'altar-like' appearance, such as the aforementioned example from Hagar Qim. At Tarxien, an arrangement of stone slabs suggests an altar function, borne out by the discovery of burnt animal-bones and other finds, including a flint knife, all concealed within a cleverly hollowed-out niche (Evans 1971, pl. 20.5).

There is also the depositional evidence to consider. At the Brochtorff-Xaghra Circle on Gozo, figurines appear to have been deliberately placed with the deceased, while another part of the site appears to have been used as a 'shrine' and, amongst other finds, produced a bundle of objects referred to by the excavators as the shaman's 'bundle' and an elaborately carved anthropomorphic statuette (Stoddart 2002; Stoddart *et al*. 1993, figs 6–8; Malone *et al*. 2009, figs 10.60-10.66) (Fig. 14.3). A cache comprising five statuettes was also discovered at the foot of an altar at Hagar Qim (Evans 1971, 83; Trump 2002, 98).

The theoretical hurdles involved in making higher-level interpretations (beyond meta-level) concerning these manifestations of material culture will be addressed later in this chapter. Suffice to say for the time being that, at a broad level of analysis, it is pertinent to assume that the buildings and objects were inextricably linked to ritual enactment (cf. Bruck 2007).

Evaluating the evidence for ritual practices: overt and non-overt symbolism

Where archaeological interpretations of ritual are concerned, there has been a natural tendency to focus research on monumentality, burial and iconography possibly at the expense of other data (Whitley & Hays-Gilpin 2008, 20).

Archaeologists have also frequently relied on site context and the morphology of specific finds when making inferences concerning the material element of ritual practices (Hodder 1999). Thus, objects recovered from mortuary contexts suggest paraphernalia associated with death rites (Malone *et al*. 1993; Stoddart *et al*. 1993). Those found deliberately concealed under buildings, particularly in caches, suggest 'foundation offerings' (Gallis 1985) or 'closure ceremonies' (Peltenburg 1988). Those found associated with domestic hearths are considered likely to have been used in the performance of

household rituals (Hodder 1990, 60–61). Some objects are considered to have served as the ritual paraphernalia of shamans (Aldhouse-Green & Aldhouse-Green 2005; Price 2001; Stoddart 2002; Taçon 1983). Could it be argued that many such cases constitute the 'ideal' whereby the data recovered leads without question to a ritual interpretation at the meta-level of understanding?

It is argued below that there are observables in prehistoric material culture that, although not immediately apparent, betray an ideological component and hence facilitate a transcendence of the meta-level of interpretation. Here, two contrasting but complementary categories of symbolism, overt and non-overt, provide the interpretive grounding that reaches beyond traditionally employed categories of evidence such as contextual, structural and depositional (Fig. 14.5).

Overt symbolism

For the purposes of this chapter, a working definition of overt symbolism may be given as any symbolism that can be readily identified with recognisable human activity, including ritual enactment. In cases this might also involve the zoomorphic form. For instance, a Chalcolithic statuette from Kissonerga-Mosphilia in western Cyprus comprises a human figure with the painted image of what appears to be a baby emerging from between the legs, and thus appears to represent the act of giving birth (Bolger 1992; Goring 1991; Peltenburg 2010; Peltenburg & Goring 1991; Peltenburg *et al*. 1988). Two cattle figurines from the Jordanian Pre-Pottery Neolithic site of 'Ain Ghazal had flints inserted into their torsos suggesting 'ritual killing' possibly associated with a cattle cult (McAdam 1997; Rollefson 1983; 1986; Schmandt-Besserat 1997). The Bronze Age enclosure model from Vounous (Cyprus) is a particularly good example; the pottery model comprises a compartmentalised enclosure, complete with entrance, within which both humans and animals are engaged in what convincingly appears to be ritual activities (Karageorghis 2006; Peltenburg 1994). Another example is the cache of figures discovered at the Formative Mesoamerican site of La Venta. In this case, individual figures appear to have been arranged as though to form an actual scene, possibly representing an act of ritual performance (Drennan 1976). Two caches of statuary were also found at the aforementioned site of 'Ain Ghazal (Schmandt-Besserat 1998), one of which appeared to comprise the deliberate arrangement of figures. These are instances where there appears to be a clear indication, or possible indication, of ritual performance either in form of a scene, or in the manner in which objects were deposited. The extensive Chalcolithic hoard discovered at Nahal Mishmar near the Dead Sea is probably one of the most spectacular assemblage of cultic objects ever discovered (Bar-Adon 1980; Beck 1989; Moorey 1988; Tadmor 1989; Tadmor *et al*. 1995). While there is considerable debate concerning the circumstances of deposition, there is overwhelming consensus that the objects (e.g. sceptres, mace-heads, containers) were paraphernalia used in ritual enactment.

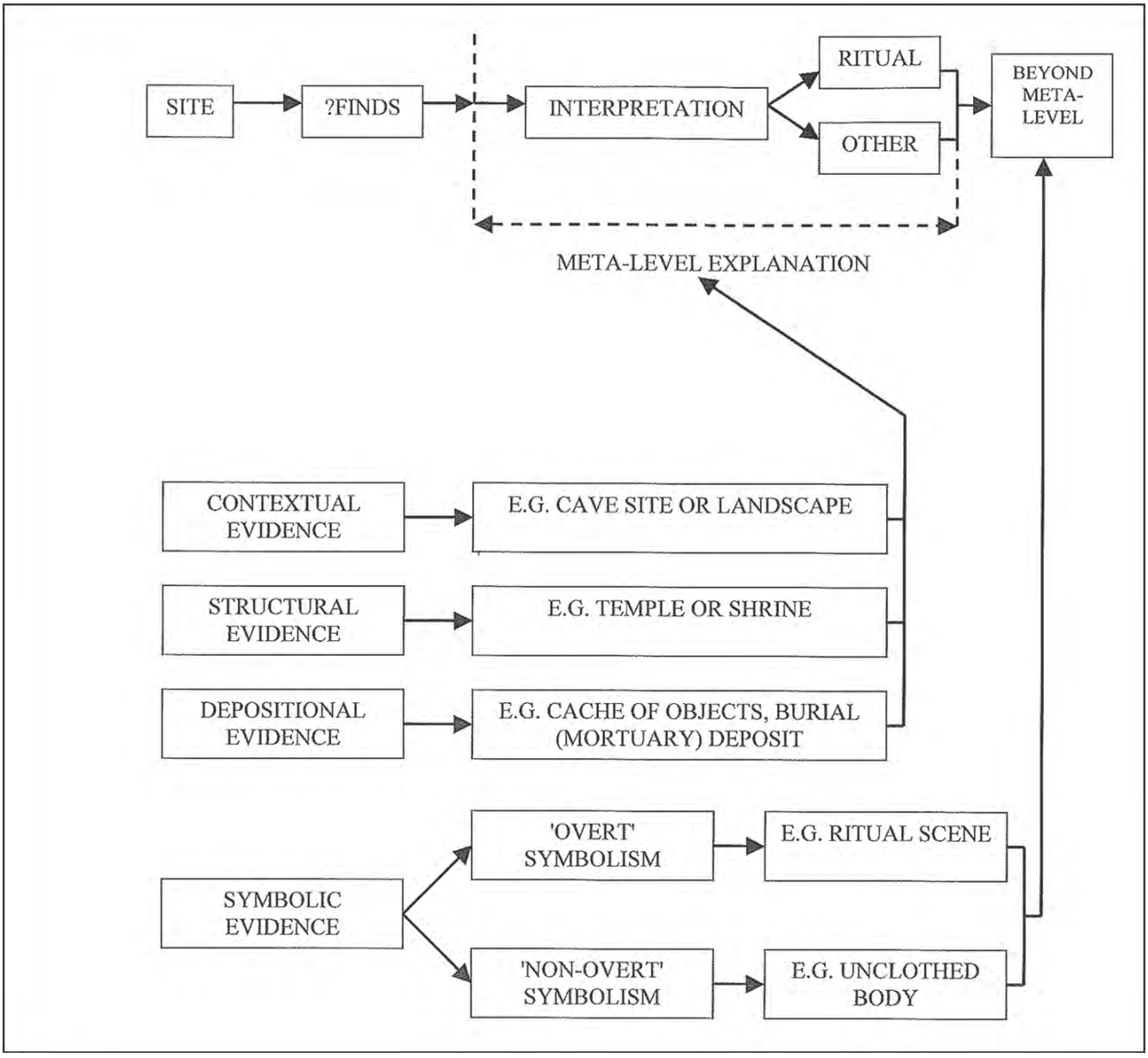

Figure 14.5 Diagram indicating categories of evidence for inferring ritual

Non-overt symbolism

But what of the symbolism that is not overt in the manner described above? Much prehistoric art incorporates symbolic elements, spiral motifs for instance, that are not visually reconcilable with acts such as birth-giving or cattle-killing. This type of ‘non-overt’ symbolism generally defies rational interpretation and is commonly referred to as ‘abstract’ or ‘conventionalised’ (Berndt 1971, 104–105); a somewhat convenient corner where to bin the unexplained. It is interesting to note, however, that what appear to be simple ‘abstract’ forms have for long been regarded by anthropologists to hold complex meanings for ‘senders’ and intended ‘receivers’ alike (Schiffer 1999, 60). An aspect of the Maltese imagery that is considered here to comprise non-overt symbolism is the rendition of the human body depicted with contrasting levels of bodily exposure. In addition to the anthropomorphic figures, there is also complementary evidence comprising anatomical parts, including the phallus, some of which were employed in the form of architectural components in the temples.

Ritual nudity: beyond meta-level explanations of Maltese prehistoric art

The evidence suggests that the human form in both life and art played a central role in Temple Period ritual activities with special emphasis seemingly placed on contrasting levels of bodily exposure. It is acknowledged that Temple Period ideology is likely to have included, amongst other issues, a concern for matters of human fertility (Bolger 1992; 1996; Bonanno 1986; Keller 1988) and this may have figured in ritual enactment. But there would also have been other, equally valued, concerns where ritual served as a marker-of-events. This may have involved simple initiation proceedings such as the creation of a new agricultural field, or completion of a dwelling, during which ritual nudity possibly took place as part of the proceedings (Durham 1920). The nudity practiced as part of rituals enacted in recognition of specific events in the community at large is also likely to have been the focus of ritual activities enacted in the temples and hypogea.

If ritual nudity figured as an ideological component of Temple Period society, it appears to have been manifested in several ways (Fig. 14.6). Completely nude anthropomorphic figurines (Fig. 14.4) were highly portable devices that could have been in widespread circulation—a common currency of nudity; their widespread occurrence in different contexts would have been instrumental in upholding an ideology that partly entailed ideological values surrounding bodily exposure. Less portable than the figurines are statuettes (Fig. 14.3). Such objects could have functioned in a multiplicity of contexts but would more than likely have been confined to 'special-purpose' places such as temples, or possibly household shrines. Their unclothed and partially clothed formats were possibly a reference to both special-purpose places used for ritual enactment and a prevalent ideology surrounding ritual nudity. Large statues (Fig. 14.2) are likely to have remained in one locale for the majority of their functional or use-life. As with the statuette category of figure, their partially clothed, or possibly fully clothed, formats may have provided a reference to special places where ritual activities entailing bodily exposure were enacted.

Some of the places where rituals were performed also figured in the art of the Temple Period. A small amulet depicting what convincingly appears to represent the architectural form was found at the Tarxien Temples (Evans 1971, pl. 51.6). As noted earlier, small-scale models of temples have also been found. The evidence thus suggests that both human body and place of ritual performance were inextricably linked elements of symbolic communication during the Temple Period.

If the proposed model concerning ritual nudity can be applied to prehistoric Maltese art, it appears to have been sanctioned by special reference to human imagery depicted with contrasting levels of bodily exposure. Moreover, a combination of the clothed and the partially clothed supported both the ideology surrounding ritual nudity and legitimised the special places where ritual enactment might have taken place.

Other sculpted forms would also appear to support the argument. As noted earlier, what have been interpreted as images of the phallus have been found on the Maltese islands. Along with figurines and statuary, such objects appear to have been a reference to bodily exposure but, admittedly, may also have connotations of human fertility.

References to nudity are, however, also present in much larger physical scale in the form of architectural components. As noted earlier, a niche at Hagar Qim on Malta is possibly a reference to the female anatomy while a 'betyl' of distinctly phallic form was found at the Brochtorff-Xaghra Circle on Gozo (Malone *et al*. 2009, figs 8.66a–d). Yet again, these features appear to be artistic devices

possibly employed in the interests of upholding and legitimising an ideology focused on exposure of the human body; essentially betyls of phallic form were a larger-scale reference to the penis as represented by phallic statuettes and niches.

Discussion

A theory of ritual would suggest that personal and community-wide needs were catered for through the process (Rappaport 1968). In his study of the Oaxaca Valley, for instance, Flannery (1976, 344) suggested that ritual was practiced at the personal, household-sodality and community-region levels, a situation that possibly prevailed during the Temple Period of the Maltese islands.

Ritual practice also appears to have served as a reflexive mechanism for numerous prehistoric societies facing the opportunities and challenges presented by ever-changing socio-economic dynamics (Dewey 1970; Shils 1966). The type of changes in question might have included the transition from hunting and gathering (mobility) to farming (sedentism). Renfrew (2001) has suggested that sedentism may have been a key factor in creating a demand for new modes of visual expression during the Neolithic. Thus, societies on the ‘threshold’ of change may have utilised the non-verbal powers of artistic expression more so than others. It appears that factors such as social change, stress and duress bring out the expressive element of human nature (Wolf 1999), not only in terms of ritual activities, but also the creativity for the accompanying materiality. This was possibly the case on the Maltese islands where, following a series of island-factored processes that took place over some two millennia, a situation had developed that triggered a social response requiring ritual intensity and the accompanying artistic expression on a grand scale (Townsend 1997).

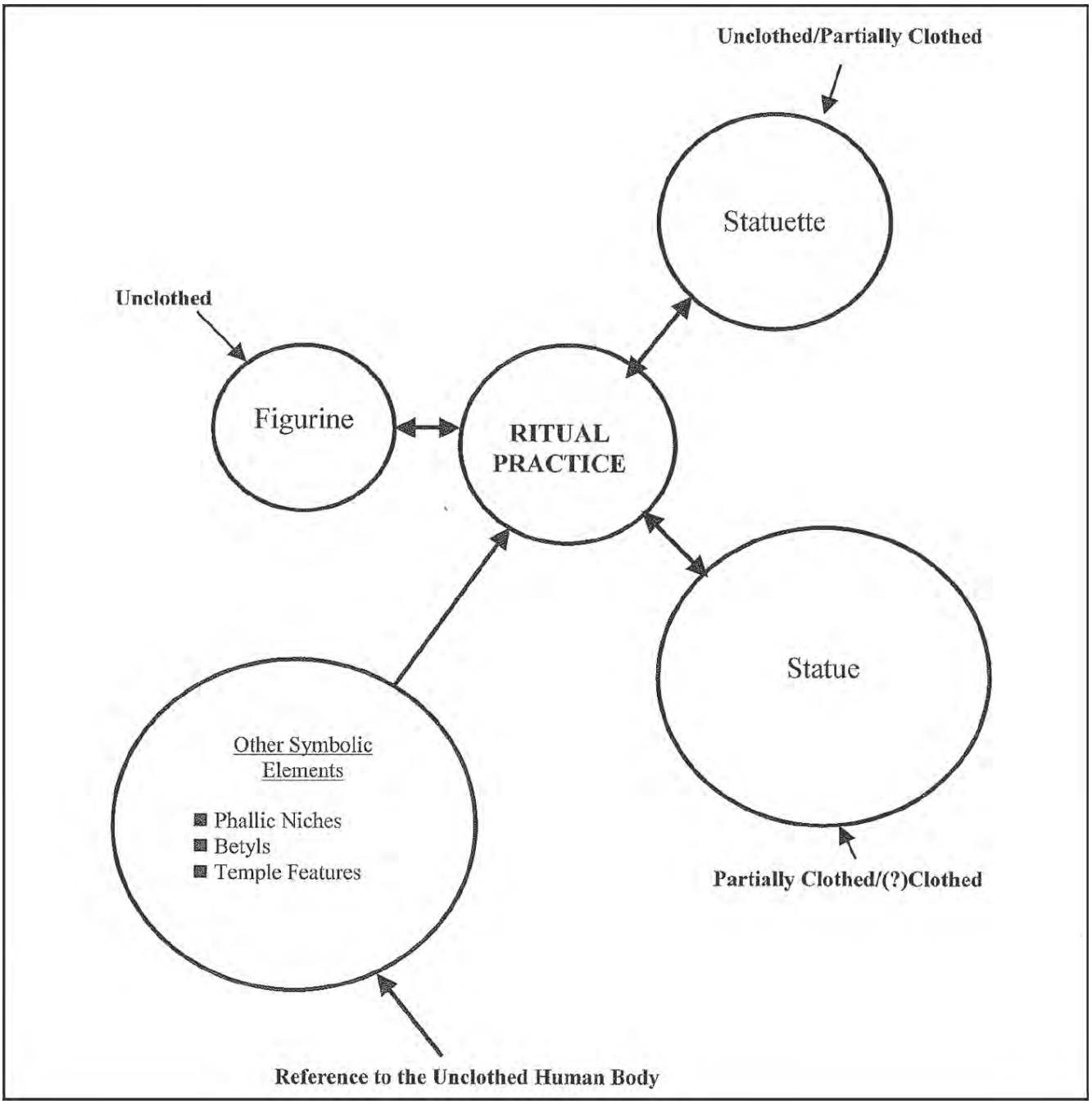

Figure 14.6 Diagram indicating the relationship between anthropomorphic figures, contrasting levels of bodily exposure and ritual practice

It would be ill-conceived to work within a monothetic framework in deliberations on prehistoric ritual and materiality. Such an approach would be in contempt of the many variables that constituted human actions in the past, and which resulted in the similarities and differences that are observed in the archaeological record. So what exactly are we looking at with prehistoric anthropomorphic imagery? Figures that were created in the belief that they would enhance human fertility or images of the deities (e.g. the Mother Goddess)? The artistic rendition of nudity practiced in the rituals of daily life? Many such questions remain firmly locked within what the anthropologist Edmund Leach referred to as an archaeological 'black box' (Leach 1973), or perhaps sited on the upper rungs of Christopher Hawkes's now legendary 'ladder of inference' (Hawkes 1954). As a response to this, it is argued that in the case

of Maltese Temple Period imagery, there appears to be a level of structuration (Pear 1927) that suggests a special emphasis placed on contrasting levels of bodily exposure—the clothed, the partially clothed and the totally unclothed human body. This was also a theme addressed by Christina Biaggi in her goddess-orientated discourse on Maltese prehistoric art (Biaggi 1986; 1989). Biaggi, however, believed that certain figures may have been 'ritually clothed during certain sacred periods of the year' (Biaggi 1986, 133). She did not entertain the idea that the very concept of nudity itself may have had special significance in ritual activities practiced on the islands.

There is much debate concerning the possible social and economic conditions that created the need for extreme visual expression on Temple Period Malta (Malone & Stoddart 1998). Given the profound changes that heralded the advent of the Tarxien Cemetery phase (Evans 1956; Nixon 1998; Pace 1995), a totally new cultural regime on the islands, it is possible that cumulative island-specific factors (Keegan & Diamond 1987; Whittaker 1998) led to a situation of necessary and imminent social change or unavoidable collapse (Trump 1976). Whatever the social environment, ritual and ceremonial practices appear to have played a key, if not decisive, role in events.

Concluding remarks

The idea that nudity might have played a prominent role in ritual enactment for some prehistoric societies was borne out of reading a number of anthropological studies (Crooke 1919; Durham 1920; Ilfeld & Lauer 1964; Miner 1956; Warren 1933) although these were not, in any sense, considered to represent the 'present past' (Hodder 1982). They did, nevertheless, lend to the idea that nudity possibly held special significance in the ritual activities practised by some prehistoric societies. An insight was also gained from studies of Classical Greece where civic nudity is recognised to have played an important role in society (Bonfante 1989; 1990).

The human image, often depicted as nude, has figured as a powerful device in art since Palaeolithic times (Clark 1956; Joyce 2008; Nead 1992). For numerous reasons, humans appear to have a strong desire to expose part or the whole of their bodies (Ilfeld & Lauer 1964, 21–40). They also decorate and modify parts of their bodies in acts of display in conformity with prevailing trends, customs and cultural schemes (Polhemus 1978).

It is possible that with some prehistoric societies the partially clothed or entirely unclothed human body played a prominent role in ritual enactment and this was manifested in the prevailing artistic creativity. While it is acknowledged that there is an element of uncertainty in any attempt to bridge the gap archaeologically between the known and unknown (Shanks & Hodder 1995), the Maltese evidence presented above facilitates the formulation of hypotheses that proceeds beyond meta-level interpretive frameworks.

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15

The Neolithic in La Balagne, Corsica: an evaluation using palynological, geoarchaeological and landscape archaeological data

Keith N. Wilkinson, Nicholas P. Branch, Marcos Llobera, Nathalie A.F. Marini, Sylvain Mazet and Michel-Claude Weiss

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The Neolithic period holds a particular fascination for archaeologists working on Corsica. The Corsican Neolithic witnessed the development of the transhumance economy that persisted until the mid-20th century, while the megalithic monuments of the Late Neolithic are regarded as some of Corsica's most famous archaeological sites. As a result, more excavations have been conducted on Neolithic sites than on those of any other period. The traditional narrative of the Corsican Neolithic from such excavations sees settlements appearing at c. 6000 cal BC in association with the development of a pastoral subsistence-economy and mainly in coastal areas. Pastoralism then caused the degradation of previous forest-communities and the appearance of the maquis-vegetation communities that chiefly characterises the island today. When new settlements were founded beyond the littoral zone during the Middle and Late Neolithic, they were not, therefore, established in a previously pristine forest-environment. La Balagne Landscape Project has tested this model for a study area in north-west Corsica by using a combination of field survey, geoarchaeological and palaeoecological techniques. The survey found that while Early Neolithic sites are coastal, Middle and Late Neolithic settlement remains are clustered on piedmont areas overlooking the coast and river valleys. Throughout the Neolithic, however, hunting, herding and raw-material exploitation took place further inland, including activity in some of the highest of Corsica's mountains. Palynological data suggest that the appearance of the maquis and

the reduction of previous woodland in lowland areas date only from the Late Neolithic, a period for which there are comparatively few archaeological sites in La Balagne.

Corsican archaeology is generally known to English-speaking audiences largely through the work of the travel writer Dorothy Carrington, who begins her book *Granite Island* with an evocative account of Neolithic *statue-menhirs* (human-shaped standing stones) at Filitosa (Carrington 1971, 14–40). Carrington is of course not the only author to describe this best known of all Corsican archaeological sites, but it is notable that besides the Neolithic, the only other Corsican past she describes is of that of the fight-for-independence in the 18th and 19th centuries. The Neolithic focus is not only true of non-technical works such as Carrington's, but is also found in the only review articles published on Corsican archaeology in English (Lewthwaite 1983, 1985). Indeed this fixation on the Neolithic is not unique to foreigners, but is also true of Corsican archaeologists. For example, the two 'standard' reviews of Corsican prehistory, both written by Corsicans, devote more than three-quarters of their pages to the Neolithic (Costa 2004, 43–145; de Lanfranchi & Weiss 1997, 80–258). Obviously, the very visibility of the Neolithic is one reason why the period is seen as being of such interest in Corsica. Not only are Neolithic sites such as Filitosa, Paddaghju, Renaghju and Cauria the best known archaeological sites on the island, but the statue-menhirs they contain are a very unusual phenomenon that may be an indigenous development and, therefore, the first tangible expression of Corsican identity. Understanding the developments that ultimately led to the construction of statue-menhirs and other megalithic features is, therefore, presently the most important goal for archaeologists researching Corsican prehistory (Costa 2004, 143). For the most part, the primary method of investigation has been the excavation of known sites, often during campaigns that have lasted many years. Such projects have enabled the formulation of a detailed typological-cultural system predicated on a radiocarbon chronology (Table 15.1), while also throwing light on other aspects of Neolithic life, including technology, subsistence strategies and ritual activities. The focus of research on the known archaeological sites has, however, left the remainder of the landscape unexplored, despite the fact that these 'off site' areas were probably exploited by Neolithic people and possibly incorporate further sites. A further aspect barely considered by archaeologists is the effect of anthropogenic alterations to the Corsican landscape and, indeed, how the landscape itself constrained the development of human society. In order to systematically investigate the wider landscape, the authors initiated La Balagne Landscape Project (hereafter LBLP) and carried out an archaeological survey of La Balagne in north-west Corsica (Fig. 15.1). In this chapter the LBLP is discussed in the context of published excavation and palynological data pertaining to the Neolithic of La Balagne. A key objective is to evaluate cause-and-effect in the landscape change observable in palynological records from north-west Corsica for the 6th–2nd millennium cal BC.

Table 15.1 Cultural periods of the Corsican Early-Middle Holocene (modified from Llobera et al. 2011, table 1, 171)

Period	*Sub-division*	*Chronology cal BC*
Mesolithic	Mesolithic (Mésolithique)	9000–6000
Neolithic	Early Neolithic (Néolithique Ancien)	6000–5000
	Middle/Late Neolithic (Néolithique Évolué)	5000–3000
	Chalcolithic (Néolithique Final-Chalcolithique)	3000–1800
Bronze Age	Early Bronze Age (Bronze Ancien)	1800–1500

In the remaining sections of this chapter, a description of the present landscape of La Balagne and introduction to the LBLP is provided in the first instance, then a summary is given of the Early to Middle Holocene vegetation and geomorphological changes seen in La Balagne, followed by a discussion regarding the Neolithic archaeology of the area. Finally, the interaction of people and environment during the Neolithic of La Balagne is discussed and conclusions drawn concerning how the landscape affected culture, and how people in turn impacted upon the environment. Where radiocarbon dates are stated, they have been (re)calibrated using the IntCal09 curve and OxCal v4 (Bronk Ramsey 2008; Reimer *et al*. 2009).

Corsica, La Balagne and LBLP

Corsica is the fourth largest of the Mediterranean islands and the seventh most populous. Together with Crete, it is the most mountainous island of the Mediterranean – the highest point is Monte Cinto at 2708 m above sea-level (ASL), while the average elevation across the island is 550 m ASL (Fig. 15.1). The only plains are on the east coast around the Roman-period town of Aleria but, everywhere else, the mountains fall away almost directly into the sea and therefore the only other ‘flat’ land is to be found in the few river valleys. La Balagne, a non-administrative division of the island measuring approximately 850 km^2, incorporates terrain that is typical of the island as a whole (Fig. 15.2). The area is dominated by the highest mountains in Corsica – Monte Cinto lies in the south-east corner of La Balagne – but the ranges are dissected by the Ostriconi, Regino, Figarella, Fiume Secco and Fango/Marcellino rivers, of which all except the first are ephemeral in the present day. There are relatively small areas of coastal plain at the mouths of all of these valleys, and a more extensive plain in

the coalesced lower Figarella and Fiume Secco valleys to the south-east of the modern town of Calvi (Fig. 15.2).

The present day economy of La Balagne is dominated by tourism, although small-scale agriculture (arable in the valleys and on the lower slopes, and pasture in the uplands) remains important. The two principal towns are both coastal, Calvi (of Roman foundation) in the west and L'Île Rousse (developed in the 19th century) in the east, but most settlement comprises villages on the lower and middle slopes of mountains surrounding the river valleys and coastal plains. Where the land is not farmed, the lowland vegetation forms a dense maquis dominated by holm oak (*Quercus ilex*), tree heather (*Erica arborea), Phillyrea*, myrtle (*Myrtus communis*) and strawberry tree (*Arbutus unedo*) (Reille 1992). Deciduous oak forests (*Quercus pubescens*) are, however, found at elevations of greater than 400m ASL where there is no grazing, while pine (*Pinus nigra* subsp. *laricio*) forests grow between 1000 and 1600 m ASL (Gamisans & Marzocchi 1996, 25–26). Terrain above 1600 m ASL is occupied by herb-dominated alpine and sub-alpine plant communities.

Corsica can, essentially, be divided into two parts on the basis of its geology. The majority of the island, including most of La Balagne, is formed of intrusive volcanic rocks (mostly granites), that formed during the Carboniferous and Permian (Gautier 2006, 19–63). Rhyolite seams within these rocks were the principal raw material used for the production of lithic tools during the Mesolithic and Neolithic (although chert from limestone areas was also used), there being no obsidian on the island (the nearest source is Monte Arci on Sardinia). The areas of Corsica that are not formed of igneous geologies are comprised of either Devonian and older metamorphic rocks (e.g. the Ostriconi Valley in eastern La Balagne, the majority of Cap Corse and Castagniccia [south-west of the town of Bastia]), Miocene limestone (e.g. the St Florent area at the base of Cap Corse and Bonifacio on the southernmost tip of the island) or Quaternary drift (i.e. river valleys and coastal plains).

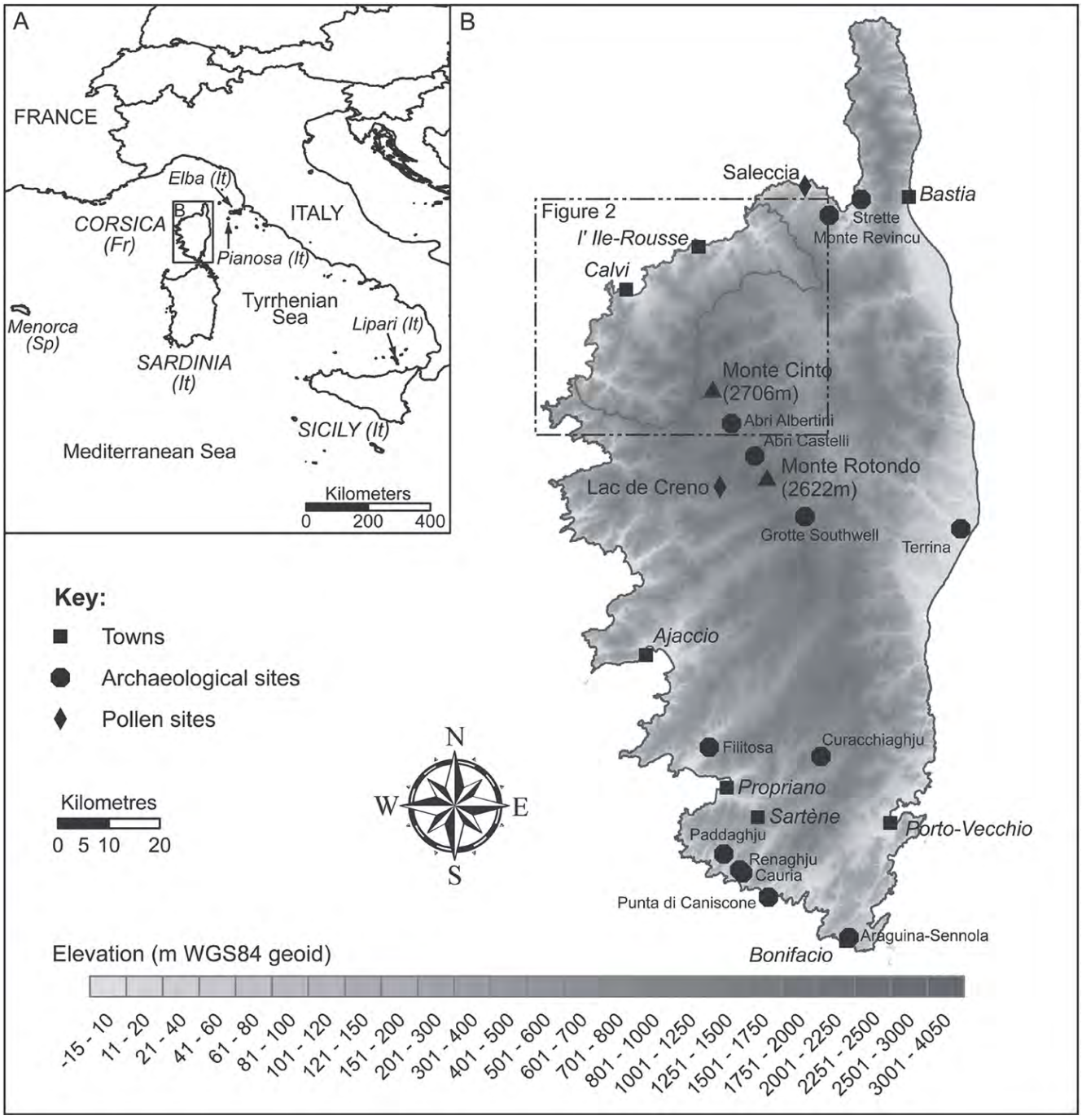

Figure 15.1 A. Corsica in the western Mediterranean; B. the island, showing the location of non-Balanine sites mentioned in the text and the boundaries of La Balagne (drawn: Keith Wilkinson)

The basis for and methodology of LBLP are fully discussed by Llobera *et al*. (2011) and, therefore, only a summary account is provided here. LBLP examined five communes within La Balagne and two to its immediate south during five seasons of fieldwork in 2005–2009 (Fig. 15.2). The 2005 season was used to formulate the survey methodology, but also to produce an outline geomorphological map. The latter was produced on the basis of desktop resources (topographic and geology maps, aerial photographs and SPOT satellite elevation data) and a limited field survey of Quaternary landforms in three of the river valleys (Fango, Marsolino and Figarella). During the latter fieldwork, geomorphological features were mapped in detail using a recreational global positioning system (GPS), exposed fluvial stratigraphy was described and samples for optically stimulated

luminescence (OSL) were collected with the intention of assessing the potential for deeply buried cultural material in lowland locations. The OSL dates demonstrate that only within valley areas, approximately 1 km from the coast, might there be deeply buried archaeological material, but elsewhere the present topography was more-or-less the same as that of c. 18,000 BP (Wilkinson & Feathers unpublished data). In all other locations, therefore, archaeological materials were considered to be present as a palimpsest at or just below the present ground surface.

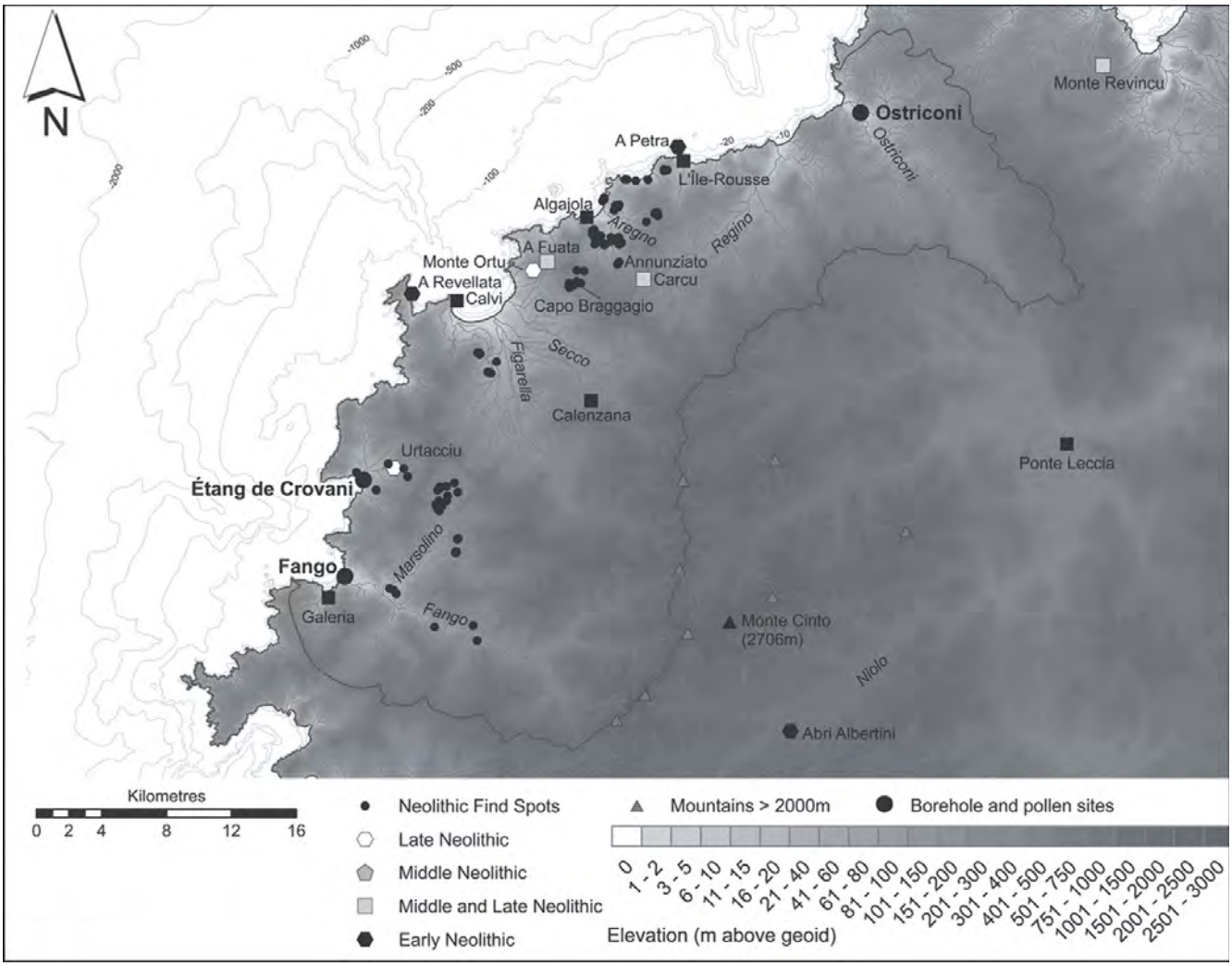

Figure 15.2 La Balagne, showing the location of Balanine Neolithic, LBLP Neolithic find spots and geoarchaeological/palynological sampling locations (drawn: Keith Wilkinson)

Surface-survey was undertaken in the 2006–2008 seasons and utilised a strategy that combined stratified random sampling of topographic units with opportunistic collection *en route*. Survey transects were formulated so as to sample representative topographic zones defined by running a Landserf classification on a 20 m resolution SPOT-derived digital elevation-model (Wood 2004). The transects were then plotted onto aerial photographs and topographic maps within an ArcGIS project, and modified so as to avoid terrain that could not be traversed. The routes were subsequently uploaded to dGPS receivers and then followed by survey teams in the field. Each team comprised four individuals who surveyed a line (at 5 m intervals between individuals) parallel to the transect. When encountered, findspots were recorded with the dGPS and artefacts collected for later study, while structures were

surveyed, sketched and photographed. Artefacts were subsequently identified, photographed, drawn and catalogued (in an Access database) in the project's laboratory by specialists from the Université de Corse. Finally, finds were manually grouped as spatially distinct 'evidence zones' (e-zones) in order to ease interpretation of the 100s of artefacts, each with unique grid coordinates (Llobera *et al*. 2011).

Figure 15.3 Drilling boreholes on the Étang de Crovani and Ostriconi using the Atlas Cobra and Eijkelkamp drilling equipment. A. Drilling a borehole on the Étang de Crovani (photo: M.-C. Weiss); B. The Atlas Cobra petrol-powered hammer at the Étang de Crovani (photo: Richard Cooke); C. Describing sediments in an Eijkelkamp gouge auger (photo: Keith Wilkinson); D. Extracting a gouge auger from a borehole in the Ostriconi valley (photo: Peter Moore)

During the 2006–2009 seasons, borehole surveys (using an Atlas Cobra petrol-powered hammer and Eijkelkamp gouge and core samplers) of the lower margins of two river valleys (Fango and Ostriconi) and two lagoons (Étang de Crovani and Étang de Cannuta) were undertaken (Figs 15.2 &

15.3), The aim was to determine the nature and age of infilling material, but also to collect samples for palaeoenvironmental study.

Early-Middle Holocene vegetation and landscape change in north-west Corsica

The Late Quaternary vegetation record of Corsica is unique among the Mediterranean islands in several respects. First, it is the only island with fossiliferous sequences that span both the Late Glacial and the entire Holocene; second, long records are found in both mountainous and lowland catchments; third, many (N=27) of these records have been studied (Reille 1992; Reille *et al*. 1997; 1999) and, last, the vegetation recorded in these basins is different from that noted anywhere else in the Mediterranean region (Grove & Rackham 2001, 157). Data obtained from the Lac de Creno, a mountain lake (1310 m ASL) 15 km south-east of La Balagne, and from coastal lagoons such as Saleccia (8 km north-east of La Balagne) (Fig. 15.1) and Fango, enable Balanine vegetation to be reconstructed with a moderate degree of spatial and temporal detail. So-called 'climax' vegetation communities of the Early Holocene prior to c. 5000 cal BC comprised herb-dominated communities in the highest mountains and pine-tree-dominated woodland at high elevations – just as in the present. At middle elevations, however, there was a marked difference between the east and west sides of the island. On the east side, a mixed forest of deciduous oak (*Q. pubescens*), lime (*Tilia* sp.), maple (*Acer* sp.) and yew (*Taxus baccata*) grew, but although these same species were present on the steeper slopes of the west, tree heather (*E. arborea*) and strawberry tree (*A. unedo*) dominated the latter flora (Reille 1992). At lower elevations, i.e. on the foothills and in the valleys, a scrub of tree heather and strawberry tree grew.

At Lac de Creno, Reille *et al*. (1999) noticed a major disturbance to the upland forest between c. 5320 and 4790 cal BC, in which birch (*Betula* sp.) colonised areas that had formerly been occupied by alder (*Alnus* sp.) and tree heather. They suggest that this 'catastrophic event' was anthropogenic because the spread of birch was so rapid and 'strong'. As a result, holm oak (Q. ilex), a new arrival on Corsica from c. 5200 cal BC, was able to colonise the open areas within the upland forest. Reille *et al*. (1999) suggest that holm oak then slowly spread lower down the mountains and into the lowlands, the reduced rate of expansion being a result of the density of the existing forest at these lower elevations. As noted earlier, holm oak is the prime constituent of the present maquis and, therefore, it can be argued that the downslope movement of this taxon represents the migration of maquis-type communities. Reille *et al*. (1999) further argue that the spread of holm oak was only possible because of human manipulation or removal of the previous woodland (holm oak is both a better coloniser of open ground than native deciduous trees and tree heather, and is more resilient to fire than the latter taxa (Grove & Rackham 2001, 48)). Vigne (1987) has suggested that the maquis is an indirect product of grazing by domesticated animals – predominantly sheep and goat – that were introduced at the beginning of the Neolithic. Confirmation of the relatively slow spread of maquis communities is provided by coastal pollen-sequences at Saleccia and Fango, which are characterised by tree heather 'woodland' until c. 4000–3000 cal BC, while *Quercus ilex* does not even appear in these pollen diagrams until c. 4500–4000 cal BC (Reille 1992). Nevertheless, by c. 3000 cal BC, holm oak (and therefore maquis) dominates the coastal palynological-sequences at Saleccia, Fango and the Étang de Crovani. At c. 2500 cal BC, there is evidence from both Fango and Crovani for a decline in tree and shrub communities, which coincides with increases in cereal pollen and other colonisers of open ground such as grasses (Poaceae) and rockrose (*Cistus* sp.). There appears, however, to have been little

subsequent change to the vegetation until around c. 200 cal BC, at which point holm oak declines in importance and cultivars such as walnut (*Juglans* sp.) and grape (*Vitis* sp.) appear (Reille 1992).

Before departing the present discussion of La Balagne's floral history it is important to clarify the implications of Reille (1992; Reille *et al*. 1999) and Vigne's (1987) hypothesis regarding the spread of the maquis and the appearance of cultivated land (i.e. arable crops and weeds). These are:

a. That the maquis was anthropogenic, i.e. a product of woodland clearance and subsequent browsing by domesticated herbivores;
b. Acceptance of (a) implies that Neolithic pastoralism can be dated to c. 5000 cal BC in upland areas;
c. Pastoral activities therefore spread from the uplands to the lowlands between c. 5000 and c. 3000 cal BC;
d. Cultivation only became sufficiently widespread in the lowlands to be recognisable in pollen diagrams at c. 2500 cal BC. Arable agriculture is not recognisable in pollen diagrams from upland areas during the entire course of the Neolithic.

The above factors (i.e. a–d) will be revisited later in this chapter to assess both their significance and validity.

Borehole surveys carried out as part of LBLP demonstrate that alluvial sedimentation began in the lower river-valleys as a result of the development of barrier beaches (Fango) and dune systems (Ostriconi). These features constricted the river channels, prevented the ingress of saline waters up the valleys and resulted in the development of marshes. Similarly, the Étang de Crovani formed as a result of the progradation of a barrier beach across the mouth of the Baie de Crovani, leading to the formation of a shallow lagoon. The barrier beaches cannot be directly-dated, but their age has been bracketed by dating marine invertebrates from stratigraphically earlier deposits and the earliest marsh or lacustrine sediments forming in their lea. U-series dates of marine invertebrates from the Ostriconi Valley average c. 5500 cal BC (Black pers. comm.), while the basal marsh deposits in the Fango and Ostriconi valleys date to c. 4850 cal BC and c. 5300 cal BC respectively (Wilkinson unpublished data). The first lacustrine deposits in the Étang de Crovani date from c. 4900 cal BC (Wilkinson unpublished data). In other words, it would appear that the barrier beach and dune systems that presently block-off all river valleys in La Balagne formed more-or-less synchronously between c. 5500 and 4900 cal BC. Their development would have had a profound effect on valley environments, causing water tables to rise, leading in turn to the development of floodplains and marshes. Neither of the latter two environments would have been suitable for cultivation given Early Neolithic technologies, while the grazing of animals in such habitats is also unlikely.

Mesolithic and Neolithic archaeology of La Balagne

Excavated sites

Corsica is thought to have been colonised by humans from the west coast of Italy at c. 8600–8300 cal BC (the earliest site with widely accepted radiocarbon dates being Punta di Caniscone on the south coast) (Costa 2004, 19–20). Given, however, that less than ten Mesolithic sites are known on the entire island and that, with the exception of Curacchiaghju, they are all coastal, Corsica is unlikely to have

been intensely exploited. Mesolithic sites are not presently known in La Balagne, the nearest being the multi-period cave of Strette at the western base of Cap Corse (Fig. 15.1). Costa (2004, 20, 44, 58–59) has pointed out a hiatus in radiometrically dated Mesolithic sites between c. 7000 and 6000 cal BC and suggests that Corsica may have been abandoned during this apparent lacuna. This view, however, is by no means universal (e.g. see de Lanfranchi & Weiss 1997). Consequently, there are two theories regarding the origins of the Corsican Neolithic: First, that it was introduced by new human-colonists from Mainland Italy (Costa 2004, 58–59) or, second, that it represents the adoption of a new economic approach by the indigenous Mesolithic islanders (Bonifay *et al*. 1990; Camps 1988; de Lanfranchi & Weiss 1997). The first hypothesis argues that not only is there a break in the radiocarbon record between Late Mesolithic and Early Neolithic sites in Corsica, but also a dramatic change in cultural practices (notably in lithic technology and the appearance of pottery in the Neolithic, but also mortuary practices). Thus, the Corsican Neolithic is regarded as an allochthonous phenomenon brought in from the European mainland. The second hypothesis on the other hand suggests that the Corsican Early Neolithic archaeological record is representative of small mobile-groups who lived mostly on the coast, just as in the Late Mesolithic. It is further suggested that the paucity of evidence for Early Neolithic cultivation infers that, in addition to herding, and hunting of the now-extinct 'rabbit-rat' (*Prolagus sardus*), the use of marine and forest resources continued to be of importance (Camps 1988, 72). The implication of the second theory regarding the origins of the Corsican Neolithic is that it was autochthonous, albeit that outside contacts brought-in key cultural (e.g. Cardial pottery) and economic components (domesticated animals and cereals).

The Corsican Early Neolithic (c. 6000–5000 cal BC) is represented by mainly coastal settlements, the use of Cardial pottery, evidence for the keeping of domestic animals, small-scale cultivation of cereals and the importation of obsidian from Sardinia (Costa 2004, 43–56). Costa (2004, 59) has argued that mountainous areas were only occasionally used by Early Neolithic people and then only for hunting, but this view is challenged by data from Abri Albertini, Grotte Southwell, Curacchiaghju and Abri Castelli, where evidence for at least seasonal exploitation, including raw-material procurement, has been obtained (e.g. Weiss 1976). Nevertheless, only the latter site has reliable radiocarbon-dates, which suggest people occupied the site at c. 5500–5200 cal BC (Mazet *et al*. unpublished data). Abri Castelli comprises a rock-shelter lying just below a 2100 m ASL ridge overlooking the Restonica Valley, 15 km south-east of La Balagne, and within 250 m of a major rhyolite outcrop. The latter seems to have been the focus of activity on the site and the lithic evidence suggests that the primary activity that took place there was the production of arrowheads.

Three Early Neolithic sites have been excavated in La Balagne, all close to the coast: A Petra, A Revellata and Carcu (Fig. 15.2). The site of A Petra comprises the most intensively investigated of these sites, but none have been fully published to date, with the only available literature on them consisting of basic coverage in general accounts of Corsican or Balanine prehistory (e.g. de Lanfranchi & Weiss 1997; Weiss 1988) or chapters in edited volumes (e.g. Weiss 2007). A Petra is situated on a small northwards-projecting peninsula immediately west of the town of Île-Rousse. At the time it was inhabited, sea levels could have been as low as 20 m below present levels, but because of the steeply shelving terrain, the site was coastal. The site was excavated during the summer months from 1985 to 1988 and from 2003 to 2007 under the direction of M.-C. Weiss. The archaeological remains comprised a single 3 × 2.75 m structure surrounded by a halo of Cardial pottery and worked lithics, the latter

represented by rhyolite cores, flakes, tools and arrowheads, as well as occasional obsidian tools and microflakes (Weiss 1988, 377–403). There is evidence that craft and subsistence activities took place around this 'cabin' structure including, for example, the grinding of plant foods and stone-tool production. Weiss suggests that the 'cabin' was occupied for 200–300 years (Weiss 1988, 377–403), while radiocarbon dates obtained from the 2003–2007 excavations suggest that activity occurred in the c. 5490–4800 cal BC interval (Table 15.2). Bearing in mind that there are possible taphonomic problems, pollen data from the site suggest that vegetation clearance had occurred in the immediate environs, probably to facilitate the cultivation of arable crops (Bui Thi Mai 1988).

Table 15.2 Radiocarbon dates discussed in the text

Lab. Code	*Site and context*	*^{14}C Age*	*Calibration (2σ)*	*Note*
Gif 7368	A Petra - layer IIc	6430±130 BP	5630–5200 cal. BC (95.4%) 5180–5070 cal. BC (4.9%)	1, 2
Lyon 3009	A Petra - layer IIc1	6420±60 BP	5490–5290 cal. BC (95.0%) 5250–5230 cal. BC (0.4%)	3, 4
Lyon 3006	A Petra - layer IIb	6400±70 BP	5490–5220 cal. BC (95.4%)	3, 4
Lyon 3005	A Petra - layer IIc2	6320±70 BP	5480–5200 cal. BC (89.0%) 5170–5070 cal. BC (6.4%)	3, 4
Lyon 3008	A Petra - layer IIa2	6250±60 BP	5360–5040 cal. BC (95.4%)	3, 4
Ltl 1154A	A Petra - layer IIc3	6064±55 BP	5210–4830 cal. BC (95.0%) 4820–4800 cal. BC (0.4%)	4
Ly 6087	A Petra - layer IId	5945±160 BP	5230–4460 cal. BC (95.4%)	3, 4
Ly 6085	A Revellata – base of layer II	6280±75 BP	5470–5400 cal. BC (4.4%) 5390–5050 cal. BC (91.0%)	1, 2, 3
Ly 8395	Monte Revincu – Structure 6	5355±55 BP	4330–4040 cal. BC (95.4%)	1, 3, 5
Ly 8396	Monte Revincu – Chamber D	5405±55 BP	4360–4150 cal. BC (81.7%) 4140–4050 cal. BC (13.7%)	1, 3, 5
Ly 9095	Monte Revincu – Chamber D entrance	5175±45 BP	4230–4210 cal. BC (0.8%) 4160–4130 cal. BC (1.6%) 4070–3930 cal. BC (83.2%) 3880–3800 cal. BC (9.7%)	1, 3, 5
Ly 9713	Monte Revincu – Chamber C	5405±70 BP	4370–4040 cal. BC	3, 5
Gif 4803	Carcu – Level 4	4640±130 BP	3700–3680 cal. BC (0.2%) 3670–3010 cal. BC (94.9%) 2980–2970 cal. BC (0.2%) 2950–2940 cal. BC (0.1%)	1, 3
Ly 6579	Monte Ortu - Terrace 8, layer V	4160±55 BP	2890–2580 cal. BC	3
Ly 4145	Fango – Reille's borehole, 5.37–5.50m	5630±190 BP	4940–4040 cal. BC (95.4%)	6
Ly 4144	Fango – Reille's borehole, 3.46–3.56m	4450±140 BP	3630–3600 cal. BC (0.7%) 3530–2860 cal. BC (93.2%) 2810–2750 cal. BC (1.3%) 2720–2710 cal. BC (0.1%)	
Ly 3680	Crovani - Reille's borehole, 2.28–2.43m	4300±120 BP	3340–2580 cal. BC (95.4%)	6
Ly 4142	Crovani - Reille's borehole, 2.28–2.43m	3820±140 BP	3340–2580 cal. BC (95.4%)	
Ly-4491	Saleccia - Reille's borehole, (6.00m)	5690±100 BP	4770–4750 cal. BP (0.2%) 4730–4340 cal. BP (92.2%)	6
Ly 4490	Saleccia - Reille's borehole, (4.50m)	5160±100 BP	4240–3710 cal. BC (95.4%)	6
Ly 4489	Saleccia - Reille's borehole, (2.00m)	3730±100 BP	2460–1890 cal. BC (95.4%)	6

Calibrations are according to the IntCal09 curve (Reimer *et al*. 2009) and have been generated using OxCal 4 (Bronk Ramsey 2008) with calendar ages rounded to the nearest 10 years. Key: (1. Costa 2004; 2. de Lanfranchi & Weiss 1997; 3. Banadora 2011; 4. Weiss 2007; 5. Leandri 2000; 6. Reille 1992)

In many respects, the Early Neolithic site of A Revellata is similar to A Petra but, although larger, has been investigated less intensively. The site is situated on a rocky peninsula west of the town of Calvi, and was excavated from 1989 to 1993 by Pierre Neuville (de Lanfranchi & Weiss 1997, 119; Neuville 1992; Weiss 1988, 151–165). The remains of up to four circular hut-structures and five occupation floors were found together with obsidian and rhyolite tools and cores, but there was little pottery. Two radiocarbon dates were obtained and, although one of them was of Roman age (Ly-6555, 1840±80 BP, cal AD 1–390), the other suggests that activity at A Revellata took place at c. 5470–5050 cal BC (Table 15.2), i.e. at approximately the same time as A Petra (Bonadonna & Leone 1995; Costa 2004, 44; de Lanfranchi & Weiss 1997, 119). Carcu, the third excavated Early Neolithic site in La Balagne has a turbulent past in that a large portion of the site has been disturbed by treasure hunters and trenches excavated by Italian troops during the Second World War. The site comprises a series of small artificial terraces situated on a ridge between the Aregno and Regino valleys and was investigated during small-scale excavations undertaken between 1974 and 1980 (Weiss 1988, 321). Surface collections and material recovered from the excavations revealed traces of a hearth and a midden containing Cardial and other Early-Middle/Late Neolithic ceramic types (de Lanfranchi & Weiss 1988, 321–354; 1997, 152–154). Lithic remains comprised polished-axe fragments, a broken stone-vase, a diverse range of rhyolite and obsidian artefacts and quartz debitage. Palynological analysis of archaeological deposits from Carcu suggests the presence of an open landscape at the time of occupation together with clear evidence of the effect of human impact preceding the settlement (Bui Thi Mai 1988). The Early Neolithic period represented at the site has not yet been dated by the radiocarbon-dating technique.

De Lanfranchi & Weiss (1997, 85–88) have argued that settlement shifted inland from its previous coastal focus during the Middle/Late Neolithic (c. 5000–3000 cal BC) for defensive purposes and to better exploit river valleys. They suggest that such valley areas were cultivated, thereby prompting the first large-scale adoption of arable land-use practices in Corsica. Costa (2004, 75) has pointed out, however, that there are few sites dating from the 5th millennium cal BC (at the time he was writing there were six in all of Corsica, none of which was in La Balagne), and it is, therefore, difficult to reconstruct shifting settlement-patterns on this basis. Nevertheless, it is clear even from so few sites that there are key differences from the Early Neolithic. First, an important economic change is the appearance of cattle bones on 5th millennium cal BC sites (although the granite geology of La Balagne means they are not preserved on the single site found in the area) (Costa 2004, 77–78). Cattle and pig bones then become increasingly significant elements of vertebrate assemblages from the few Late Neolithic sites where bone survives, e.g. Araguina-Sennola (in which sheep/goat are still dominant) and Terrina (at which cattle is dominant and pig is present in equal quantities to sheep/goat) (Marini 2008). Second, that settlements tend to be larger than those of the Early Neolithic and, third, megalithic monuments such as dolmen and menhirs appear. Middle/Late Neolithic settlements and megaliths are rare in La Balagne, and only one of the former (A Fuata) has been excavated, while a second site (Monte Revincu) lies 10 km east of the region. A Fuata is located on a rocky spur overlooking the sea to the east of the village of Lumio and was excavated by Pierre Neuville from 1997 to 2007 (Neuville 2007). It is a two-phase site that is radiocarbon-dated to 4330–4040 cal BC (Phase 1: layers IVc-d) and the 4th-3rd millennium cal BC (Phase 2: Stratigraphic Units I to III-1),[1] to and comprises two superimposed square-structures retained within terraces (Le Bourdonnec *et al*. 2010; Neuville 2007).

Three possible hearths, as well as post-holes, were associated with one of the structures, while over 59,000 potsherds were recovered, many of which are stylistically similar to Middle Neolithic specimens found in Tuscany (e.g. Grotta Patrizi and San Rossore) and on some islands of the Tuscan archipelago (e.g. Pianosa). Of particular note was the presence of a mandible of *Prolagus sardus*, suggesting the survival of the species into the 5th millennium cal BC (Neuville 2007), while obsidian found at the site comprises the first in Corsica to come from Lipari, rather than the Sardinian source of Monte Arci (Le Bourdonnec *et al*. 2010).

Monte Revincu is situated in the Désert d'Agriate, just beyond the eastern margins of La Balagne. The site was discovered in the 1990s and has been investigated by Franck Leandri since 1996 (Leandri 2000) and is one of several that, together, comprise approximately 40 megalithic structures, including both dolmen and features that have been interpreted as houses. Radiocarbon dates on charcoal associated with the settlement suggest an age of c. 4300–4000 cal BC (Banadora 2011), although the dolmen are thought to be later features dating from the 3rd and 4th millennia cal BC (Leandri 2000). This latter period is represented in La Balagne by the latest phase of the Carcu site, which has been radiocarbon-dated to c. 3670–3010 cal BC (Table 15.2) (Banadora 2011), the Phase 2 activity at A Fuata (Neuville 2007), and artefacts and a single radiocarbon date (c. 2890–2580 cal BC, see Table 15.2: Banadora 2011) from Terrace 8 of the otherwise Bronze Age site of Monte Ortu (Weiss 1988, 241–283). A menhir at Urtacciu (near Crovani) is also assigned to the Late Neolithic on typological grounds, and on the basis of lithic artefacts retrieved from around its base (Llobera *et al*. 2011).

Surface sites found by LBLP

As Llobera *et al*. (2011) have observed, until recently there has been little tradition of surface survey in Corsica; rather, sites were found either by chance or by walking targeted topographic-features that had yielded finds in the past. The LBLP surface survey is, therefore, the first systematic investigation of terrain between archaeological sites, although the area surveyed represents less that 1% of the total territory of the seven communes that were examined. It is, nevertheless, significant that, other than post-medieval artefacts, finds of Neolithic age were the single largest category collected. The vast majority of Neolithic artefacts are lithics and mostly unattributable to any particular sub-period, although a few diagnostic tools (arrowheads, blades and polished axes) were found. Unlike artefacts from later periods, Neolithic finds were found across the majority of the survey area.

Surface-survey evidence for Neolithic activity can be split into three types: first, settlement as represented by pottery, grinding stones and cupules (also assumed to be used for grinding plant foods); second, craft, as suggested from high concentrations of lithic debitage and small, isolated grinding stones; third, hunting/collecting, as indicated by low-concentration finds of lithic artefacts such as arrowheads and retouched flakes. Evidence of the first two categories is found predominantly in the areas to the north-east of the Fiume Secco, while evidence for the last category is only found south-west of the Figarella River in the Crovani, Marsolino and Fango valleys.

South-west of the Figarella River

The Baie de Crovani is the marine-transgressed element of a 6 km long north-east to south-west trending valley, while the Étang de Crovani presently lies at its sea-land interface to the north-east of a 5 m high beach barrier ridge (Fig. 15.3). Geoarchaeological investigation of the Étang demonstrates

that the beach ridge developed before c. 4900 cal BC and that, in the Early Neolithic, an open bay sat west of the present beach. Given the present knowledge of Holocene sea-level rise in the Mediterranean, the Crovani Valley would have been cut-off from the remainder of La Balagne by c. 5000 cal BC (bathymetric data demonstrate a relatively steeply shelving shore face) (Pirazzoli 1991, 90). Difficulty of access might be one reason why, with the exception of the toppled Urtacciu menhir, only a few rhyolite flakes lacking chronologically diagnostic features were found by LBLP, despite a relatively intensive survey. The lack of Neolithic artefacts in the Crovani Valley cannot be a result of survey bias, as frequent Roman and medieval finds were made in the area, suggesting the presence of a farmstead linked to the outside world by the sea (Llobera *et al*. 2011). Indeed, the paucity of Neolithic finds in the vicinity of Crovani is in contrast with the survey results from most other areas. For example, frequent Neolithic rhyolite artefacts were found throughout the Marsolino Valley during survey of equal intensity to that undertaken in the Crovani Valley. The Marsolino Valley is 6 km in length, runs north-east to south-west and its (presently ephemeral) axial drainage (the Ruisseau de Marsolino) joins with the Fango River approximately 13 km downstream from the latter's head-waters. Finds from the Marsolino Valley are mostly rhyolite flakes, but retouched flakes, as well as a single 'piercing' arrowhead of a characteristic later Neolithic form, were also recovered.

The 15 km long Fango Valley is oriented east-south-east to west-north-west and was, until recently, a significant transhumance route to and from the Niolo, an isolated valley in the interior of the island. Along the initial 11 km of its length, the perennial Fango River has cut into the granite bedrock to produce a shallow gorge but, in the westernmost 4 km, the valley broadens out and fluvial terraces dating to the Late Pleistocene are preserved on the valley margins. The valley is fronted by a gravel beach emplaced before *c*. 4850 cal BC, while the Fango Marsh discussed earlier in the present chapter has formed on its westwards side. The valley is visible in the bathymetric record to at least 15 km offshore, while before c. 5000 cal BC it would have been linked to the Crovani Valley by a coastal plain. Neolithic surface finds in the Fango Valley comprise mainly isolated rhyolite flakes, which were found in particular abundance on the remnant Pleistocene terraces above the confluence of the Marsolino and Fango streams. Further scattered flakes were, however, found in the valley to the east, including a further Late Neolithic 'piercing' arrowhead and an obsidian flake.

LBLP's survey in the south-western portion of its study area found no clear evidence for permanent settlement but, rather, the activity witnessed in the survey records would appear to relate to hunting and other exploitation of natural resources, perhaps including the exploitation of the rhyolite outcrops in the Marsolino Valley.

North-east of Fiume Seccu

Save for the plain of Calenzana (comprising the combined lower Figarella and Fiume Secco valleys), the area to the north-east of the Figarella River comprises a series of short north-south oriented valleys fronting the sea. The valleys are surrounded by relatively gently sloping mountains, on the sides of which are many villages that were founded in the Middle Ages, while the 13 km long north-west to south-east trending Regino Valley cuts these mountains off from the larger peaks of the Monte Cinto Range to the east (Fig. 15.2). When compared to the area to the south-west of Figarella, communications through the mountains and into the valleys are relatively easy, while a narrow coastal plain also enables passage around the mountains. A greater quantity and diversity of Neolithic artefacts

were found in survey zones to the north-east of the Fiume Secco, while it is also the case that all but one of the excavated Neolithic sites occur within this zone. Evidence for Neolithic settlement and hunting was found along the Capo Braggagio spur, a prominent ridge to the north-east of the Calenzana Plain. Frequent obsidian as well as rhyolite flakes (many retouched), together with ceramics, three arrowheads of distinct Early Neolithic type, grinding stones, cupules and a pestle were all found on this prominent feature. Scatters of similar artefacts were also found across overlooking hillsides and hillocks within the Aregno Valley, although two clusters were of particular note. The first was on a ridge on the western flank of the valley, where pottery, rhyolite and obsidian flakes were recovered, together with two Early and one Late Neolithic arrowhead. The second was in the valley bottom near the Annunziato Chapel and comprised rhyolite and obsidian blades and flakes, several mortars and pestles, and a quern. A further focus of Neolithic settlement noted is the hillside overlooking the coastal town of Algajola on the south-western side of the Aregno Valley, where rhyolite and obsidian flakes and pottery were found in several locations. Some of the ceramics and the lithic artefacts are chronologically diagnostic and suggest that there was Middle to Late Neolithic activity around Algajola.

The Neolithic finds from the Aregno Valley and on the mountainsides between the Aregno and Figarella valleys are suggestive of settlement, craft and subsistence (hunting and collecting activities). Arguably, at least four settlements have been located, one of which is likely to date to the Middle and/or Late Neolithic. It may be no coincidence that this cluster of Neolithic finds is both geographically close, and located in a similar topographic position to, the A Fuata and Carcu sites.

In complete contrast to the Aregno Valley, and northern flanks of the Fiume Secco, is the Figarella Valley and the mountains to the south-west of Calvi, where only a few rhyolite flakes were found. The latter pattern is more akin to that observed in the Crovani, Fango and Marsolino valleys and suggests that, despite the expanse of relatively flat ground in the case of the Calenzana plain and the presence of the A Revellata site to west of Calvi, the Figarella Valley and the area to the south-east of Calvi were mainly exploited for natural resources.

Discussion

Before considering landscape change, the role of Neolithic people in that change and how evolving landscapes might in turn have affected those people, it is worth highlighting a key problem faced in comparing surface-survey data with those from geoarchaeology, palynology and excavations, namely differential chronological resolution. The more recent radiocarbon dates from the alluvial and lacustrine sequences investigated by LBLP have a resolution of <300 years (at 95.4% confidence) at c. 6000 radiocarbon years BP, while even those obtained by Reille (1992) have a potential of <900 years over the same time span. The excavated archaeological sites have mainly been dated on the basis of radiocarbon measurement of wood-charcoal of uncertain species and, therefore, longevity, but the number of dates on sites such as A Petra and A Fuata still enables a chronological resolution that is as good as, or better, than the radiocarbon-dated cores. Sites recorded by the survey are an entirely different matter. The only way of formulating a chronological scheme for these sites is by comparing the artefacts that have been recovered with those from the excavated sites. Potsherds recovered during surface-survey tend, however, to be small and highly abraded, and as a result, vessel form can rarely be reconstructed. Given the importance of vessel shape in Corsican ceramic typologies this means that,

unless decoration is preserved, potsherds can only be dated to a generic 'Neolithic' category (Françoise Lorenzi pers. comm. 2009). Therefore, although landscape changes are evident in the palynology, and phases of site occupation are reasonably well-attested from the excavated record, correlating either of them with the results of surface-survey is problematic. With this cautionary message in mind, changes in Balanine landscape, observed from the geomorphological and palynological record, can now be reviewed against the archaeological evidence.

Early Neolithic

Artefacts and structures from A Petra and A Revellata (c. 5500–5000 cal BC) comprise the first substantive evidence for the presence of people in La Balagne. Both sites are situated on rocky promontories on the western sides of large bays, and would have lain approximately 250–350 m from the seashore at the time of occupation. The Early Neolithic is only represented by these two small coastal settlement sites, arrowheads in the Fango and Marsolino valleys, and on the Capo Braggagio spur, as well by an uncertain number of lithic-artefact scatters in the valleys. This activity may, however, have taken place in an environment that was significantly different from that of the Middle and Late Neolithic. Beach barriers had formed across the front of the Fango, Crovani and Ostriconi (and by implication the Aregno and Regino) valleys some time in the c. 5500–4900 cal BC interval. Marine sands encountered at the base of the Holocene sequence in the Crovani and Ostriconi valleys would suggest that, before barrier-beach formation, the lower parts of these valleys were marine inlets that were free of marsh. The earliest palynological spectra studied by Reille from the lower Fango Valley dates from c. 4500 cal BC, but there is no discernable human impact on the vegetation from these basal layers (Reille 1992). Furthermore, *Quercus ilex*, an indicator of maquis-type environments, is only present at <3% frequency (i.e. the relevant pollen-grains have probably been transported over a long distance – either from the mountains of central Corsica or the European mainland). It would, therefore, appear that Early Neolithic societies had a very limited effect on the Balanine environment as discernable in the palaeoenvironmental record, except perhaps for the area immediately surrounding settlements (as at A Petra). The lack of impact might be a result of low population densities (as previously noted, the 2 known settlements comprise only 1–4 structures each), and/or the nature of economic activities. An arable subsistence-strategy at A Petra has been inferred on the basis of palynology undertaken on the archaeological layers at the site (Bui Thi Mai 1988), although macroscopic evidence for cereal cultivation has not been found at either A Petra or A Revellata. Bone rarely survives on Balanine archaeological sites because of the acidic nature of the granite bedrock. There is also, however, no evidence from either the base of the Fango or the Saleccia pollen diagrams for woodland clearance to create pasture for domesticated animals, while there is also no evidence for the development of maquis during the Early Neolithic in the lowland areas. The surface-survey data demonstrate, nevertheless, that Early Neolithic people exploited the entire landscape during the hunting and foraging expeditions as evidenced by the presence of lost or discarded lithic artefacts.

As noted earlier, Reille (*et al*. 1999) have suggested that *Q. ilex* had colonised upland areas by c. 5200 cal BC and that *Q. ilex*-dominated maquis developed in these locations in the early 5th millennium cal BC. The presence of Early Neolithic societies in these areas is attested by sites such as Abri Castelli but, due to their mountainous nature, these sites cannot have been occupied year-round given the harsh winter climate at elevations >1500 m ASL and must, therefore, have served as summer

camps. Whether sheep and goats were being pastured at these high elevations in the summer during the Early Neolithic is presently unclear, even at sites as intensively investigated as Abri Castelli. Given, however, that the only evidence for settlement at this time is on the coast, and that any flocks grazing in the mountains during the summer must have grazed the lowland areas in the winter, an explanation needs to be advanced in terms of why maquis developed in only one of the zones. Two possibilities present themselves. First, that upland vegetation (i.e. pine woodland and deciduous oak, yew, maple, tree fern and strawberry-tree woodland) was more susceptible to damage as a result of browsing than the tree fern and strawberry-tree scrub at lower elevations. Second, the development of maquis resulted from a process altogether unassociated with the pasturing of domestic animals. The first hypothesis would appear unlikely given that, on the west side of Corsica, tree fern and strawberry tree were dominant components of both low- and middle-altitude floras and, as such, the second hypothesis is more likely to be the case. The Middle Holocene was a period of significant climate change throughout the Mediterranean basin and although the course of that change is presently unclear for the western portion, changing rainfall patterns (i.e. increasing aridity) might have affected upland vegetation (e.g. Roberts *et al*. 2008; 2011).

Middle Neolithic

Excavation evidence suggests that significant changes occurred in La Balagne in the Middle Neolithic. It is notable that settlements such as A Fuata, Carcu and Monte Revincu are considerably larger than those of the Early Neolithic. They are also situated at significantly higher elevations (Carcu at 398 m ASL and A Fuata at 224 m ASL, cf. A Petra and A Revellata both lie at 11 m ASL), while on a broader scale, there are wider trade connections with areas outside Corsica (e.g. the appearance of Liparian obsidian and the increased use of Monte Arci obsidian[2]). Despite these developments there are, however, still no significant changes to the lowland vegetation, while because there are no suitable basins for palynological study at middle elevations, it is unclear whether maquis was indeed spreading downhill from upland areas. As previously noted, palynological data from Carcu suggest an open landscape around the site (Bui Thi Mai 1988) but, even so, the unchanging Fango, Crovani and Saleccia pollen diagrams indicate there is no evidence for a change in lowland vegetation of sufficient magnitude to be detected at a regional level (Reille 1992). By the Middle Neolithic, the beach barriers blocking the river valleys of La Balagne were also in place and marshes were developing in their lea. It could be argued that settlement sites were relocated to higher elevations in order to escape the discomfort, and possibly disease (malaria), associated with the newly developed valley marsh. This would, by implication, suggest that the probable settlement sites identified by the surface-survey on the Capo Braggagio spur (556 m ASL), and on the western flank of the Aregno Valley (150–250 m ASL), are of Middle and/or Late Neolithic date.

Late Neolithic

Of the known settlement sites, A Fuata, Carcu and Monte Revincu have Late Neolithic phases, suggesting continuity from the Middle Neolithic. Artefacts, a single radiocarbon date and enclosure morphology also suggest that Monte Ortu has a Late Neolithic origin (de Lanfranchi & Weiss 1997, 246; Mazet 2008), while another possible Late Neolithic settlement above Algajola can be suggested on the basis of the surface-survey data (Llobera *et al*. 2011). The only other probable Late Neolithic

site in La Balagne is the Urtacca menhir (Llobera *et al*. 2011). Consequently, there is no obvious evidence for the expansion of existing sites and there are very limited data to suggest the founding of new settlements (i.e. only Monte Ortu) in the Late Neolithic. The period c. 4000–3000 cal BC is, however, when the pollen evidence from Fango and Saleccia suggests that maquis first developed and then came to dominate the valley areas of La Balagne. As previously noted, this is an episode that is conventionally thought to be the result of browsing by domesticated animals (Reille 1992; Vigne 1987) but which, as previously discussed, might also be associated with changes in precipitation levels. The disconformity between the continuity of the archaeological record and the changing nature of palaeoenvironmental data is striking and is, therefore, an argument in favour of at least a partial climatic explanation for the development of the maquis. The Fango, Saleccia and Crovani pollen diagrams are also notable in one further respect: there is no reduction in the lowland forest/scrub until c. 2500 cal BC, at which point trees and shrubs become less prevalent and pollen grains of cereals and ruderals are found (Reille 1992). This floral change is significant in that, for the first time, people are impacting on the regional vegetation as a result of cultivation. Nevertheless, despite the fact that populations are likely to have increased as farming became more important, there is no evidence for Chalcolithic settlement in La Balagne.

Conclusions

Notwithstanding the fact that the Neolithic is undoubtedly the most studied archaeological period in Corsica, there is still much that is not understood regarding its origin, development and end. In this chapter, an interdisciplinary approach to addressing these matters has been adopted in studying the Neolithic of La Balagne and, although the surface-survey data are not yet of the desired chronological resolution, and there remains a reliance on moderately well-dated palynological information, it is possible to offer some conclusions. First, despite the fact that La Balagne is now, from an archaeological perspective, the most systematically explored area of Corsica, the absence of Mesolithic sites there suggests that Neolithic people were the first permanent inhabitants of the region, arriving between c. 5500 and 5000 cal BC. Small settlements were established on rocky promontories approximately 20–30 m above the contemporary sea level, but the wider hinterland was also exploited for its natural resources. It would appear that these early inhabitants penetrated into the most mountainous areas of the island, possibly for hunting and pasturage, but also in order to procure rhyollite for the manufacture of tools. At c. 5000 cal BC there was a significant change in the lowland environment as beach-barrier systems blocked-off the river valleys, creating new freshwater marshes in the process. Although no settlements dating to the first-half of the 5th millennium cal BC have been found, those dating to the c. 4500–4000 cal BC interval are located at much higher elevations than those of the Early Neolithic (even allowing for rising sea-levels), and might have been specifically sited so as to avoid the effects of mosquito-borne malaria. Although these settlements were larger than those of the Early Neolithic and are, therefore, likely to have been more populous, there is no indication of a greater impact on the environment for them. Only in the Late Neolithic is there evidence for vegetation change as represented by the development of maquis in lowland areas, but the archaeological record is generally the same as that for the Middle Neolithic. These conclusions clearly lack resolution and consequently LBLP is ongoing, not least in order that the chronology and nature of the sites found by surface-survey, and the chronology and detail of vegetal changes, can be better understood.

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Notes

1 The radiocarbon dates from A Fuata have only been published in outline (Le Bourdonnec *et al*. 2010).

2 It should, however, be noted that petrological/geochemical analyses of the type undertaken at A Fuata are rare and, therefore, it is possible that obsidian from a greater variety of sources was traded.

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16

Houses fit for deceased dwellers: assessing architectural devices within the rock-cut tombs of north-western Sardinia

Paola Arosio, Diego Meozzi, Antonello Porcu and George Nash

The Later Prehistoric record of Sardinia and neighbouring Corsica is extensive, sometimes boasting to be the densest area for Neolithic, Bronze Age and Iron Age activity in Europe. Within this vast assemblage of monuments are a group of rock-cut burial-ritual sites that date from the Late Neolithic, collectively known as Domus de Janus (*translated as* Houses of the Fairies). *The architecture and use is considered unique to Sardinia, where variations on a generic theme occur regionally across the island. The intricate and discreet architecture appears to replicate the living house with pseudo structural [timber] joists, thresholds and roofing carved from rock. Variations can also include idiosyncratic changes in landscape positioning. Associated with rock-cut tombs is a unique rock art assemblage that includes motifs that are akin to Atlantic Seaboard megalithic art, such as spirals and concentric circles. Also present are numerous male bovine bas-relief engravings suggesting some form of regional cult. In this chapter, we focus on the architecture and landscape position of the* Domus de Janus *monument group of north-western Sardinia. We are particularly interested in how these monuments were experienced within their respective landscapes. Particular focus is given to the* Domus de Janus *group of monuments that occupy a valley north of the town of Bonorva.*

Sardinia and the neighbouring island of Corsica and the Balearics group form part of a Neolithic process whereby a package of ideas rather than people move slowly but decisively westwards at around 5500 BCE. This movement, what is sometimes called *Neolithicisation* occurs along the various

coastal corridors of the Mediterranean, eventually passing through southern coastal Spain and Portugal. *Neolithicisation* replaces well-established hunter-fisher-gatherer economies that once flourished within this part of the Mediterranean, replacing the mindset and material culture of communities that became committed to significant change. As part of this package, Neolithic communities in certain areas of Sardinia develop a curious way of housing the dead in the form of constructing rock-cut tombs.[1] This monument-type, numbering over 2400 examples is one of three distinctive architectural burial-ritual monument groups that occupy Sardinia which also includes free-standing dolmens and Giants Graves. Surprisingly, there is little evidence of any nucleated settlement being close-by, suggesting that this monument group (like others) occupies large tracts of landscape rather than being merely sites.

In this chapter, we propose that the rock-cut tombs of north-western Sardinia offer a unique insight into the mindset of Neolithic tomb-builders where domesticity is clearly replicated in the mortuary architecture; clear attributes that are certainly absent from a number of Mediterranean and Atlantic core monument areas. Discussion will focus on four complexes in north-west Sardinia, each complex, identical in form but each occupying a unique landscape (Fig. 16.1).

The rock-cut monuments were at their zenith during the *Ozieri* period, the latest indigenous Neolithic cultural phase that flourished in Sardinia 3500–2700 cal BCE[2] and later, the Bronze Age. The archaeological evidence from these sites, in particular the artefact sequence, indicates that they were in use, albeit periodically, over a many hundreds of years, leading into the Nuragic period (Demartis 1999; Webster 1996). The continuous use and reuse of these monuments provides problems in assessing the earliest burial practices. Webster (1996, 50) goes on to suggest that there are wider implications in reconstructing palaeodemographic patterns within areas that contain this monument type, although where possible, excavation has revealed that the majority of internments are adults; male and female are equally represented (Lilliu 1988, 263–268). At Anghelu Ruju, 59 adult skeletons were accompanied by Late Neolithic ceramics and in one case, a mother goddess figurine made of calcite was found in the grave of an adult and child; however, it was not clear if there was an association between the figurine and the burials.

Research into this little-known phenomenon is restricted to a broad synthesis by Webster (1996) and a number of site-centric publications (e.g. Caprara 1986; Contu 1964; Demartis 1989; 1999; LoSchiavo 1991; Moravetti 1992). Additional material focusing on new sites within the region includes Meozzi & Arosio (2010) and Nash, Meozzi & Arosio (2010).

Figure 16.1 Map of Sardinia showing sites mentioned in the text

The rock-cut tomb phenomenon usually occupies the intermediate slopes and upland plateaus of the island, where the rock geology is soft and is easily cut and shaped; there are, however, a few exceptions to this rule. These burial-ritual places, sometimes referred to as *Domus de Janas* (translated as *Houses of the Fairies*)[3] possess a number of unique architectural traits that include long and short stepped entrances, a covered porch, ornately-carved doorways, passages or *dromos* that lead to a principal room/space. Leading off the principal room is a series of side or satellite antechambers which would have housed the remains of the dead. It is suggested that the principal room would have been utilised as a ceremonial place where ritual activity would have taken place, possibly the preparation of the body before internment. Concerning the floor plan, this group of monuments includes apsidal, rectangular, round and square floors, many of which possess rounded or square-faced central pillars (or columns) such as Sa Pala Larga. The pillars appear to both support the roof as well as providing a panel on which to engrave and paint. In one of the principal rooms within the Sant'Andrea Priu necropolis, two pillars, one at each gable metaphorically supports the roof; however, both pillars are not decorated (Fig. 16.2). At Sa Pala Larga, the opposite occurs with a central pillar being both a supportive element and a device for engravings (see Fig. 16.11a).

The *Domus de Janas* tradition of tomb-building originally occurred as a single construction phase but later more antechambers were added. Within many areas of Sardinia, more rock-cut tombs were added, sometimes numbering over thirty within one large rock outcrop; each monument group forming a necropolis or *city of the dead*.

Figure 16.2 The elaborate (non-structural) decoration including a gable pillar at the Sant'Andrea Priu necropolis

In addition to the architectural arrangement of each tomb, the builders and users of these monuments saw fit to incorporate sculptured elements that were usually associated with a house for the living, including ornamental beams (simulated timber-framing?), sometimes depicting stylised bull heads and horns, door lintels, casements and rebates, and engraved and painted rock-art (Moravetti 1985; Lilliu 1988). These architectural and artistic elements, possibly replicating the building traits of the living house created a home from home for the dead.[4] At this juncture we would argue that no other Neolithic core area of Europe shows such a clear example of replicating houses for the living into the architecture of the dead. Webster (1996, 49) confirms with Lilliu (1988) that the engraved bulls and their horns were probably added to an already established (Late Neolithic) portable figurine assemblage known as the 'mother-goddess' cult (Gimbutas 2001). Such items have been found within the burial deposition of a number of excavated tombs from this period (see Webster 1996, fig. 11). The presence of the female figurines and the bull heads suggests a structural opposition between male and female cults may be in operation (Lilliu 1988).

Architecture as dwelling

Within structuralist and post-structuralist discourse, certain elements of the landscape have been argued as being ritualised (e.g. Carmichael *et al*. 1994; Cooney 2000; Hodder 1984; Tilley 1994, 2005). Bradley (1993) has suggested that the marginal landscape, those areas that are economically unviable would have been utilised for burial-ritual activity. Outside Sardinia, Neolithic burial-ritual sites are sometimes referred to as *dolmens of the dead*, their focus directed upon the performance, utility and theatre of death, the decay and preparation of the body, and the relationship between the body and the monument (Joussaume 1985; Hodder 1990). Although Hodder focuses his example on Eastern Europe, many of the theoretical and physical attributes can be applied to the rock-cut monuments of Sardinia. The *Domus*, according to Hodder means the practical activities that are undertaken within the [living] house, such activities can include food preparation and the general sustainability of life. In the case of the *Domus de Janas*, grave goods are the sustainability of death!

In terms of architecture, these repositories for the dead incorporate four main components – façade, passage, chamber and mound covering (Nash 2012). These components with their chronological and diverse regional styles account for all Neolithic chambered tombs in Europe and elsewhere including the rock-cut monuments of Sardinia. Here, as we will demonstrate the idiosyncratic style is firmly based on the living house. The concept of a house for the dead is not new (Hodder 1990; 1994; Richards 1992; 1993). Throughout Neolithic Europe many stone and earthen monuments are being constructed over a 5000 year period. Within each of the many regions of Western Europe, communities were constructing monuments applying certain design concepts to a tried and tested construction methodology. Primarily, communities were focused on placing their dead into enclosed repositories. Many of the trappings associated with these buildings reflect the material culture of the living such as ceramics, foodstuffs, jewelry, stone tools. These commodities would have been essential for any spirit of the dead making a journey from this to another world. In Sardinia the link between houses for the living and houses for the dead has been mooted a number by Caprara 1986, LoSchiavo 1991 and Webster 1996.

Incorporated into the *house-style* are a number of architectural fixtures that include the entrance threshold, rebated and decorated door casements, painted skirting and cornicing, decorated walls and,

in some cases, pseudo timber-framed roofs, carved into the ceilings of a number of chamber ceilings. The time and effort afforded to such enterprises would have been considerable. Along with all the trappings of the household, the tomb builders are also preoccupied with incorporating stylistic engravings that are associated with a probable animal cult.

Many *Domus de Janas* monuments within this part of Sardinia have bull symbols, in particular, the schematic portrayal of the head and horns that are incorporated over doorways and sometimes engraved into the upper sections of structural pillars (Fig. 16.3). Such carvings are produced using a bas-relief technique and are limited to two generic types, one naturalistic, the other stylised. The two styles of horn may represent separate chronological phases, with the naturalistic type being the earliest (Demartis 1999, 10). Based on the surviving archaeological evidence, the bull figure appears to have a direct association with death and burial, probably representing some form of widely-used death cult. The bull symbol, along with engraved spirals appear in many monuments across the island. Although this distinct motif is usually above the doorways, at the Sant'Andrea Priu necropolis a life-size bull figure has been carved from the bedrock and faces the southern extent and the mouth of the valley (Fig. 16.4). Neolithic communities using this complex rock-cut necropolis would have seen this monumental beast before viewing the entrances incorporated into the vertical rock face that occupies the north-eastern sides of the valley. The presence of such a large animal clearly shows that the location of the Sant'Andrea Priu necropolis was not hidden within the wider landscape; however, the inner realm, beyond the entrance of each chamber probably was.

Sometimes, single and multiple engraved spirals accompany bull symbols; both could be considered to be heraldic but it is more probable that when combined, these symbols marked the boundary between the welcoming sections the house and the repositories for the dead. This assumption is partly based on the architectural elements that are incorporated into each monument; clearly, in our view there are distinct physical boundaries between life and death, being alive and being dead, and being in the light and being in the dark. These binary oppositions and associations are, according to structuralist and social anthropologist Lévi-Strauss (1963) used to signify a set of universal deep structures or underlying structural principles that influence, manipulate and control society. These principles, in theory, formalise culture. All are inextricably linked with our own perceptions and the way in which we view and place ourselves in the world. The structuralist principles promoted by Lévi-Strauss binds these perceptions to the artefact, creating a social order of things. Within a general structuralist approach, relationships and oppositions can also contain myth and symbolism, especially through the medium of art, thus transforming an objectified thing into a cultural artefact. In this case, the cultural artefacts are the various architectural devices and images of the bull and the spiral. Within the mindset of the tomb builder was the need to replicate the living house for the dead but within the same space to also include engraved and painted symbols. From the contemporary mindset, the bull clearly represents maleness, potency, powerfulness, robustness and stamina. In terms of modern farming practices, the bull also represents domestication and fertility. In later prehistory however, the bull may have represented something completely different; maybe a figure of danger and wildness. Therefore, within the same space – the house for the dead, the various architectural devices and the bull could be seen as contradictory, i.e. in structural opposition to each other. Alternatively, both the architecture and bull could be seen as working in harmony; the bull as a tamed beast with its power harnessed into the realm of a burial monument, itself a place of danger and mystery.

Figure 16.3 The horn motifs around the entrance to one of the tombs within the Sant'Andrea Priu necropolis

Figure 16.4 The imposing life-size bull idol which may have controlled access to the valley

As suggested earlier, many of the architectural traits employed in the construction of the *Domus de Janas* monument also apply to houses for the living. Theoretically, and in terms of metaphysical meaning, the house affords protection, it conceals the secrets of the individual or family, it defines gender roles, it establishes social cohesion and ritual protocols and, above all, it creates private space (see Parker-Pearson 1999; Parker-Pearson & Richards 1994). Hodder (1990, 44) considers the house, or *domus* to be a functional concept, providing nurture and care to all its inhabitants but at the same time offing symbolic elaboration though house design and the artefacts held within. In addition to symbolic interaction, the house also acts as a device for social and economic relations and engendered power (Hodder 1990, 5). We would add a third strand whereby the house offers legitimized aesthetic and rhetorical power between people and their ancestors; an association that is certainly present within these rock-cut burial monuments of this part of Mediterranean Europe. Clearly, a chronology is being physically established as antechambers leading from the main gallery are added over time when many generations of community would have applied their signature, either as a permanent marker or otherwise. Prior to these chronological additions to the primary monument, the standardized *Hypogée* may have initially comprised an entrance, a central gallery and several side chambers. The archaeological evidence from Anghelu Ruju and the Sant'Andrea Priu necropolis for example show a clear development in architectural elaboration with the later construction of antechambers leading off earlier antechambers and the main gallery. The time between the initial construction and the final phase

of use at the Sant'Andrea Priu necropolis is difficult to ascertain, although the use of this mausoleum probably could be measured in hundreds of years (Caprara 1986). Elaboration to existing *Domus de Janas* monuments is usually limited to the excavation of further rock-cut graves rather than a clear change in the architecture.

Different scapes, similar dwellings

As stated earlier, the western Mediterranean has a number of Neolithic core areas which are formed by distinct monument traditions, and the rock-cut chambered monuments or dwellings for the dead is just one tradition that flourished in Sardinia at this time. What makes each monument unique is the personal 'signature' that has been architecturally incorporated and enshrined into the monument, exemplified by a series of rock-cut chambers that occupy the valley plateau necropolis sites of Santu Pedru and Anghelu Ruju. Although the majority of rock-cut chambers from these two sites were excavated during the first half of the 20th century, the wealth of material recovered and their state of preservation has allowed archaeologists to establish a clearer picture of ritual life in and around these monuments, as well as refining, by then, a problematic chronology (Caprara 1986; Demartis 1989; 1999). As we will see these two necropolis sites, along with a further two necropolis complexes east of Bonorva conform to a number of primary rules concerning architectural grammar, artefact deposition (mainly ceramics), static ornamentation and landscape setting. However, in refining some of these rules, clear chronological, localised changes in burial behavior do occur. It is conceivable that each of these sites were in use over many generations, allowing external and local influences to be subtly adopted and allowing for change to occur. Of particular interest is the landscape setting in which each monument group stands. Extending across most of the northern part of the island is a soft volcanic derivative geology; much is exposed as outcropping, forming deep-cut valleys or stand as dramatic cones of extinct volcanoes (Fig. 16.5).

Figure 16.5 The volcanic landscape of NW Sardinia (image taken from the ridge west of Sa Pala Larga)

The Santu Pedru complex, east of Alghero is strategically located within the rocky hinterlands of the Nurra, some 20 km east of the western coastline of north-west Sardinia within a reddish volcanic soft fine grained tufa geology.[5] The rock-type is similar to other rock-cut necropoli in the region. During construction, the rock would have been relatively easy to excavate and to finely decorate the door casements, lintels and the internal features that represent the house. The necropolis complex derives its name from a 6th–7th century AD church that stood over the site of Tomb VIII. In terms of topography, the necropolis complex is cut into a small ovate hillock that stands within an undulating east-west valley. The site was discovered in 1959 whilst this part of the site was being commercially developed. As a result of the discovery, one (Tomb I) of eight rock-cut tombs was excavated (Contu 1964).[6] The remaining complex, including a Roman arcoslium tomb was excavated between 1989 and 1994 (Moravetti 1992a; 1992b). Despite the early discovery and complexity of the necropolis, only Tomb I has been thoroughly investigated and published. Similar to other necopoli within Sardinia and the western Mediterranean Basin, Tomb I revealed a complex history that extended beyond the Neolithic, with stratigraphic archaeological evidence from the Bronze Age[7], medieval period and recent times; unfortunately, this later activity disturbed much of the Neolithic phases. Of the eight tombs investigated, Tombs I, IV, VI and VIII were considered the most complex; each comprising an entrance (or *dromos*) which led to a central or principal room (or chamber). Radiating around the central chamber were a series of antechambers (or satellite chambers); six from Tomb I, eleven from

Tomb VI and five from Tomb VIII. These smaller and usually undecorated chambers, colloquially referred to as the Sassari-type may have been sequentially added to each complex as space for depositing the dead became restricted (Demartis 1999). The principal room would have probably functioned as a space where ritual activity was performed rather than the space becoming a resting place for the dead. This spatial arrangement (and possible use) appears to have been a common trait throughout this group of monuments.

In addition, and probably adding to the mystique of the internal arrangements of tomb, the builders of Santu Pedru appeared to have carved deep recesses around door and window entrances, suggesting that some form of stone or wooden cover (door or window-shutter) was inserted. Other craved fixtures and fittings indicate the potential secrecy of the internal arrangement. Although the principal room is large, it could not have housed a large number of people and more likely functioned as a chapel of rest or waiting room where only the immediate family would be allowed to enter. The low ceiling height would have prevented most people from standing upright. However, on view would have been many attributes of the living house. In terms of material, the skill of the carpenter would have been replaced by the skill of the stonemason. Attention to detail would have included the presence of the bulls head and horns which would have been displayed as dressed stone lintels on many of the entrances leading to the antechambers.

Into the Valley of Death

We now wish to look in detail at the monuments that occupy the upper and lower sections of the Santa Lucia Valley, located approximately five kilometres east of Bonorva (Fig. 16.6). This secluded east-west orientated valley has within its historic past supported a limited number of farmsteads which subsist on a pastoral economy and olive groves. Along this valley, within the exposed cliffs of its western ridge are a number of rock-cut tombs, several of which remain in a good state of preservation. Based on several field-walking events, the authors have noted other visible archaeology which possibly indicates a near-continuous history that extends some 6000 years.

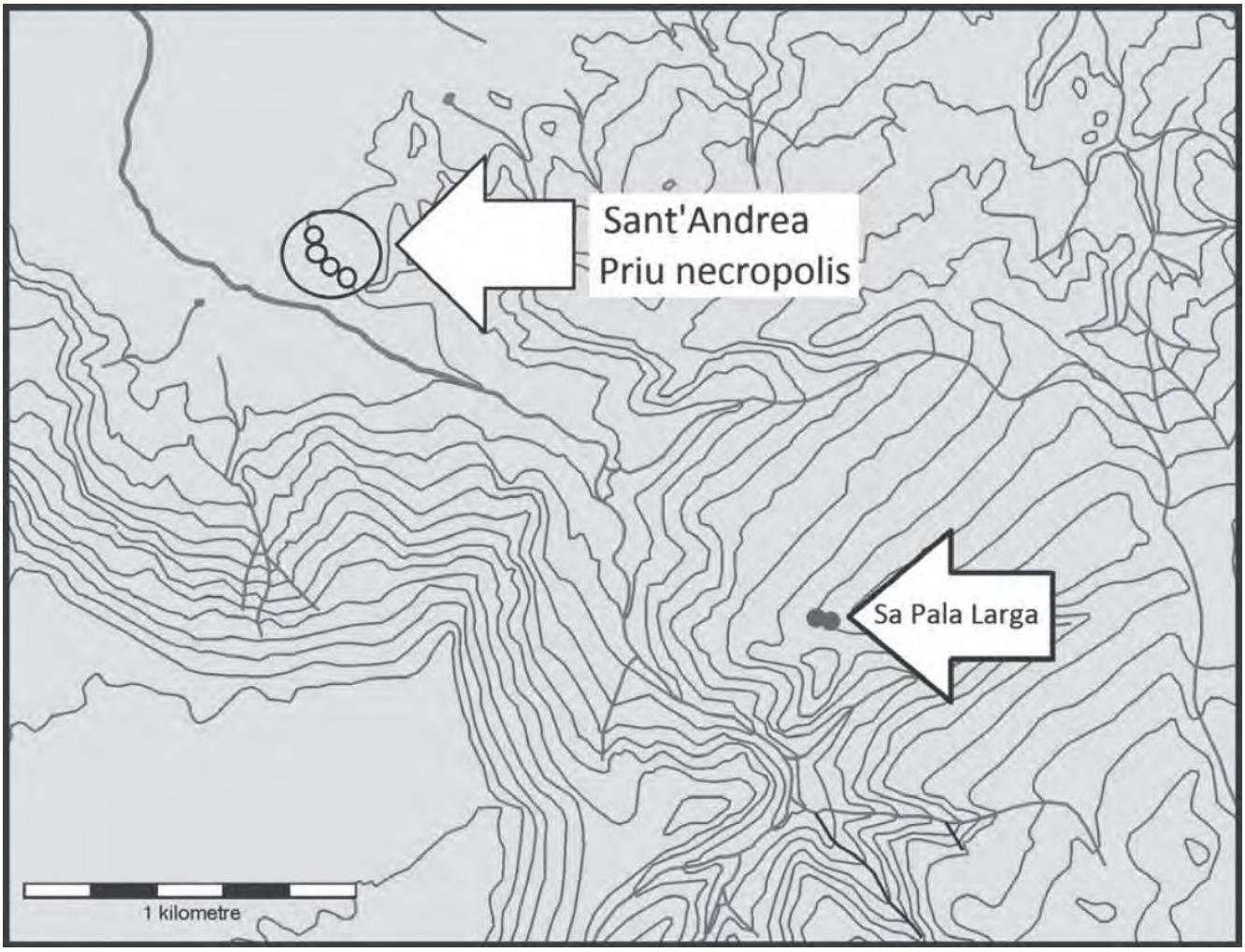

Figure 16.6 The extent of the Santa Lucia Valley, near Bonorva

At the eastern end of the valley where the Sant'Andrea Priu necropolis is located, the landscape fans out towards the west forming a flat valley plateau. Until recently, much of this area was seasonally flooded and it is probable that such a scenario existed during later prehistory when this necropolis was in use. The Sant'Andrea Priu necropolis, comprising at least five rock-cut tombs is located on the western side of the valley, approximately 40m above the valley floor. Although the site dates to the Neolithic, Roman frescoes are also present. The rock cut tombs are cut into a near-vertical cliff-face, above which the landscape is formed by a weathered rocky massif. The cliff-face from the southern and western sides of the massif extends many kilometres to the north-east of the Santa Lucia Valley. We would suggest that many more rock-cut tombs either exist or have existed within this cliff exposure. We say this as the rate of natural erosion within this and the side valleys is considerable. Clear weathering (rather than through human agency) is visible around the entrance of one of the rock-cut tombs that occupies the western part of this necropolis site. Despite this however, the rock-cut tombs that occupy this part of the valley are probably the finest examples for explaining what we term the *hearth and home* complex (i.e. Hodder's *Domus* (*for the Dead*)).

Each of the rock-cut tombs is accessed by a small enclosed courtyard that looks out towards the western side of the valley. Incorporated into the courtyard of the largest tomb is the possible remains of a purpose-built hollowed-out hearth (Fig. 16.7). From the courtyard, the deceased would have been carried through the doorway that leads to the realm of the dead. Above the entrance into this world is a

large carved radiating sun that is bisected by the wall that houses the main entrance (Fig. 16.8). Similar to several other *Domus de Janas* monuments, the plan of this chamber complex comprises several *reception rooms*, each accessed by rebated doorways. Leading from both rooms are a number of antechambers that extend further into the cliff – these difficult to access rooms were the repositories for the deceased.

Over a 2 km spread towards the south-east, the Santa Lucia Valley rises a further 200 m. At the far eastern end of the valley, on the northern side are several streams that feed into Santa Lucia; an unnamed stream that divides two hilly areas (the Furria Cuguttu to the north-west and Sa Pala Larga to the south-east) and the Riu Badde Manna. The valley sides are steep-sided and the valley floor narrow; an area ideal for seasonal upland grazing and occasional olive plantation (but little else). It is within this area that the Sa Pala Larga tomb complex is located. This recently excavated rock-cut necropolis is similar to other *Domus de Janas* within the region. Although the monument faces towards the upper section of the valley, the ridge on which it stands provides dramatic views to the east where a series of extinct volcanoes stand.

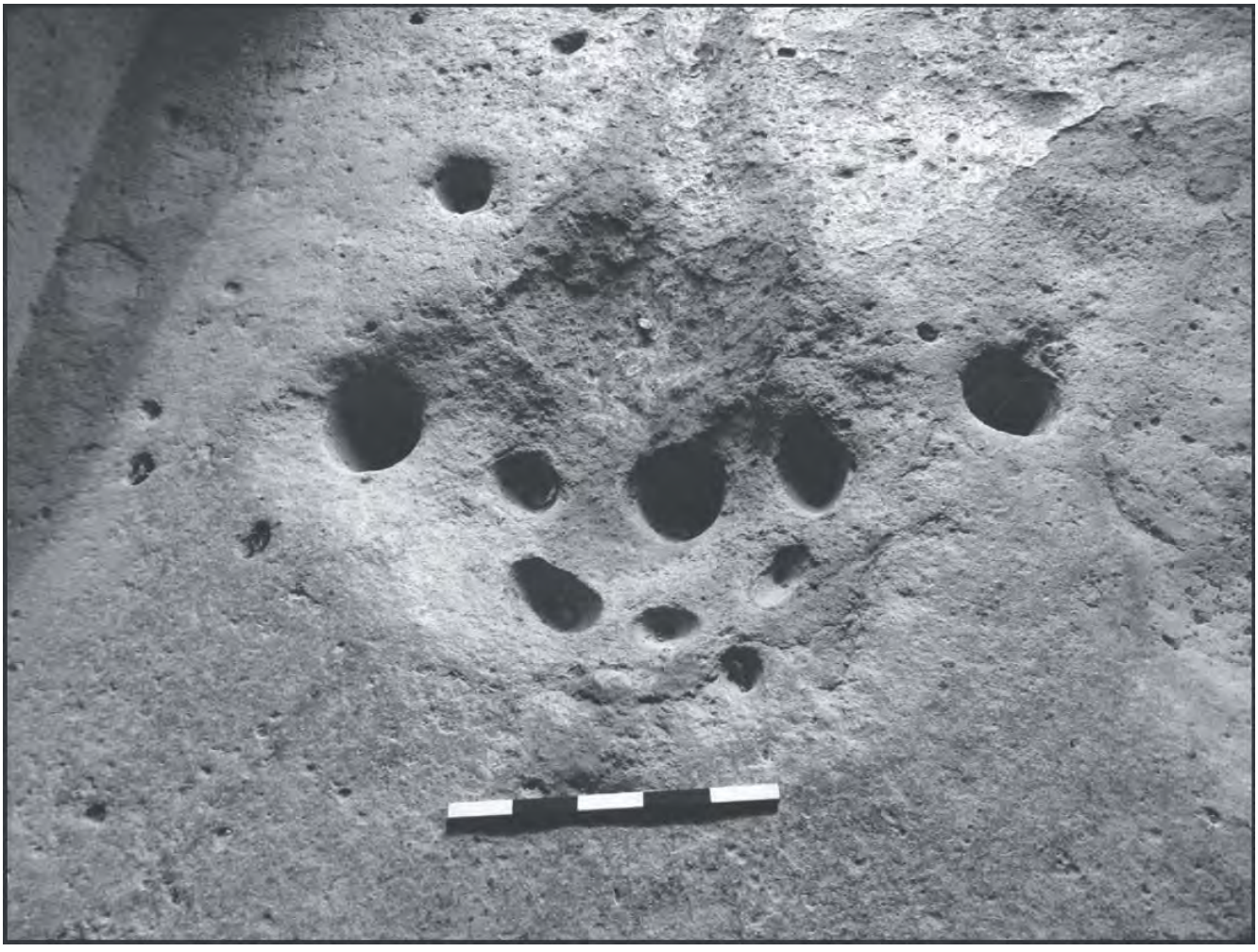

Figure 16.7 Probable hearth feature located within the entrance area of Tomba del Capo of the Sant'Andrea Priu Necropolis

Figure 16.8 The engraved radiating sun motif carved into the ceiling of Tomba del Capo of the Sant'Andrea Priu Necropolis

It is probable that both rock-cut tomb complexes: the Sant'Andrea Priu necropolis and Sa Pala Larga form the eastern and western terminal ends of what is a ritualised landscape and the northern side of the valley and the river act as natural markers, once guiding communities from one monument to another. Obviously, this assumption is based on the idea that both monument complexes were in use at the same time and that a ritual synergy existed between each monument group.

The tomb of Sa Pala Larga is located on a south-facing slope, close to a ridge that overlooks a large volcano-strewn valley to the west (see Figure 16.5). The rock-cut monument has in the recent past received an unsympathetic, almost disastrous conservation programme following excavation. The monument comprises a porch that leads to a large principal room (Fig. 16.9). Within this space is a centrally-placed single stone pillar which divides the room into two areas. Behind the pillar the builders of the monument have laid a drystone wall which has created two clear partitions (or chamber areas). There are no antechambers suggesting that the monument may have been used over a short period of time. Engraved onto the walls around the entrances and within the porch area are sets of multiple spirals (Fig. 16.10). The central pillar forming part of rock-cutting phase of construction has been smoothly hewed. Engraved on this pillar are a series of vertically-aligned spirals along the central section, whilst at its top a bas-relief head and horns of a bull; the horns are carved into the ceiling of the chamber. Located on the back wall of the chamber, extending either side of the drystone wall is

evidence of painted cornicing, probably using a haematite-based pigment (Fig. 16.11).[8] As suggested earlier no two monuments are the same, although their generic characteristics are. In the case of the Sa Pala Larga, the plan of the tomb is very different to others that occupy the same valley; the rock-cut antechambers seen in other tombs are in this case, absent.

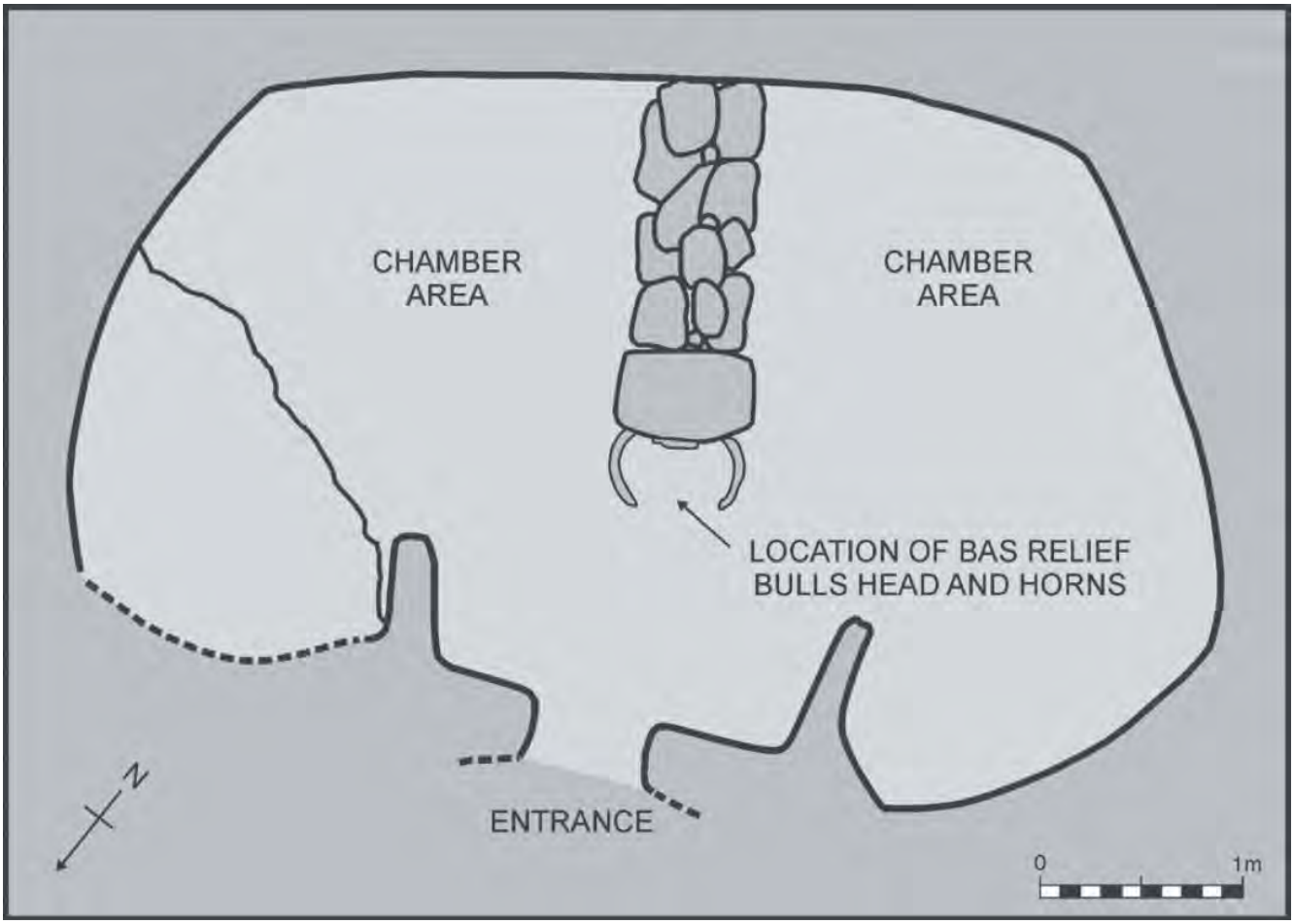

Figure 16.9 Schematic plan of the Sa Pala Larga monument (adopted from Solinas 1996)

Located a few metres to the east and west of Sa Pala Larga are further rock-cut tombs including the recently excavated *Tomba della scacchiera*. This monument is, in our view, one of the finest later prehistoric painted monuments in Europe. The site probably marks the terminal end of the ritual activity within the valley and forms part of the Sa Pala Larga Group of monuments. The site was excavated in 2009 and is so-named after the discoverers recorded an altogether unique blue and white painted chequer design across the ceiling (Fig. 16.12). Architecturally, this rock-cut monument comprises a façade and entrance that leads to a rock-cut passage and principal room with three antechambers beyond. The ceiling stands 1.70 m above the chamber floor and is carved in such a way as to possibly replicate the *domus* (the living house). Incorporated into the principal room are a series of pseudo-structural engraved beams that form a shallow-angled pitched roof (Fig. 16.13), similar to the one found in the Sant'Andrea Priu necropolis nearby. The chamber appears to have been divided into several spaces, separated by several rock-cut floor jambs. Similar to other *Ozieri* necropoli, the chamber side walls appear to replicate the internal elevation of a timber-framed building (Fig. 16.14).

Based on a series of unofficial photographs taken during the excavation by one of the authors, the

walls were painted with multiple curvilinear and rectilinear motifs, using a vibrant red pigment, most likely haematite. Much of this paintwork occupies the wall cornicing, skirting and floor jambs (Fig. 16.15). However element of the surviving, the most striking rock-art is a set of seven interconnecting large red spirals that occupy the walls of the principal room (Meozzi & Arosio 2010; Nash *et al*. 2010) (Fig. 16.16).[9] The elaboration of the internal architecture and the painted walls has parallels with the temples found on Malta and Gozo which were in use c. 1500 years or earlier (Trump 1996; Trump & Cilia 2004).

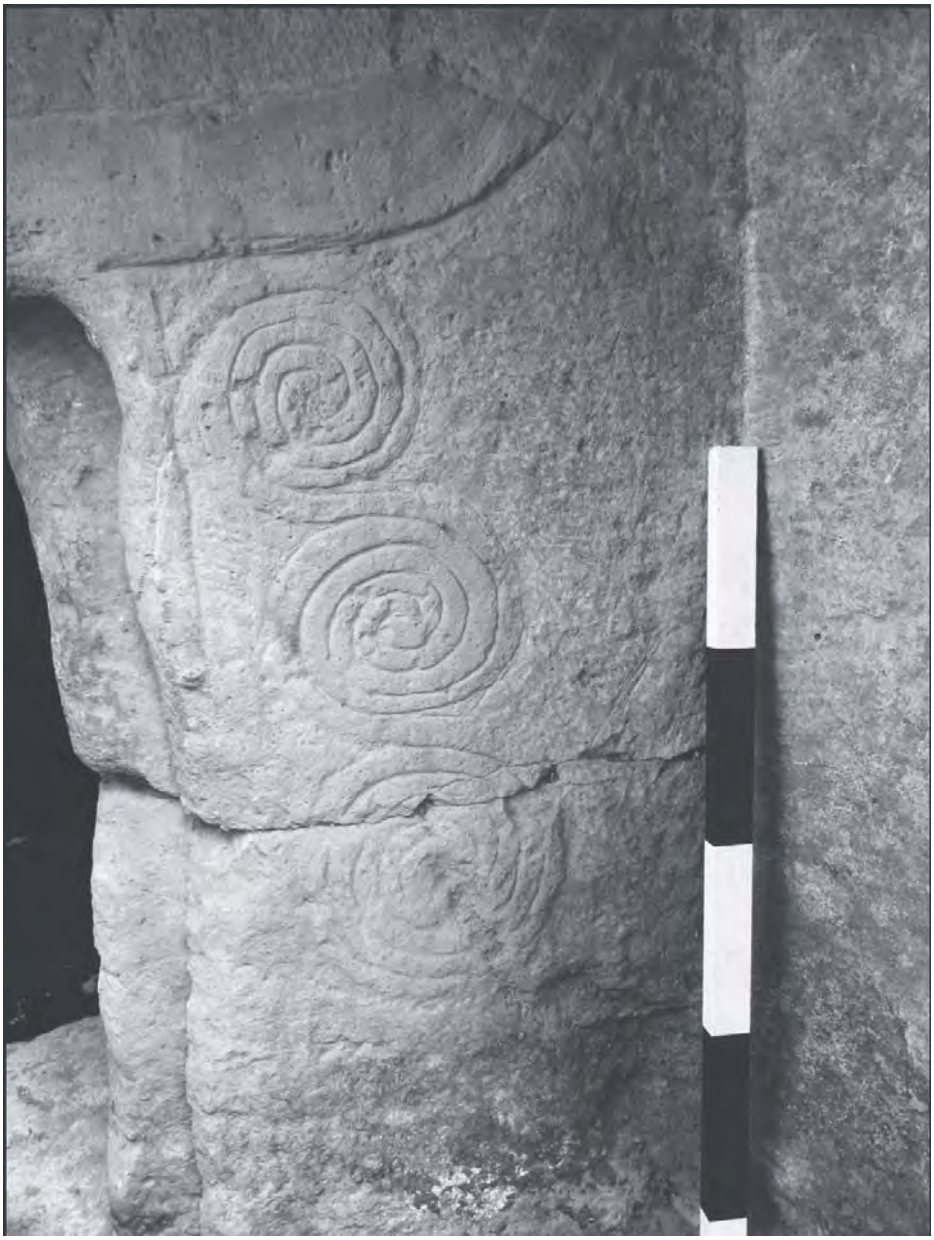

Figure 16.10 A vertical row of spirals around the entrance of Sa Pala Larga, engraved using a metal implement suggesting a Bronze Age (or later) presence

Concluding remarks

In this paper we have outlined the various architectural devices and landscape behaviour of a number of *Domus de Janas* sites within north-western Sardinia; each site possesses a number of physical

devices that conform to a strict set of architectural rules that include rock-cut stepped entrances, hallways, doorways, principal rooms/spaces and multiple antechambers leading from a principal room/space. Based on recent archaeological evidence, many of these elements would have been embellished with vibrant decoration, usually in the form of bas-relief carvings of bull heads and horns some of which were naturalistic, whilst the remainder were stylised. At the Sant'Andrea Priu necropolis there is clear evidence of painted frescos also being used during its time as a late Neolithic repository for the dead; however, only limited traces remain of what was once a very ornately decorated tomb.

Figure 16.11 Image showing the pillar (right) and back wall of the Sa Pala Larga tomb and its painted cornice

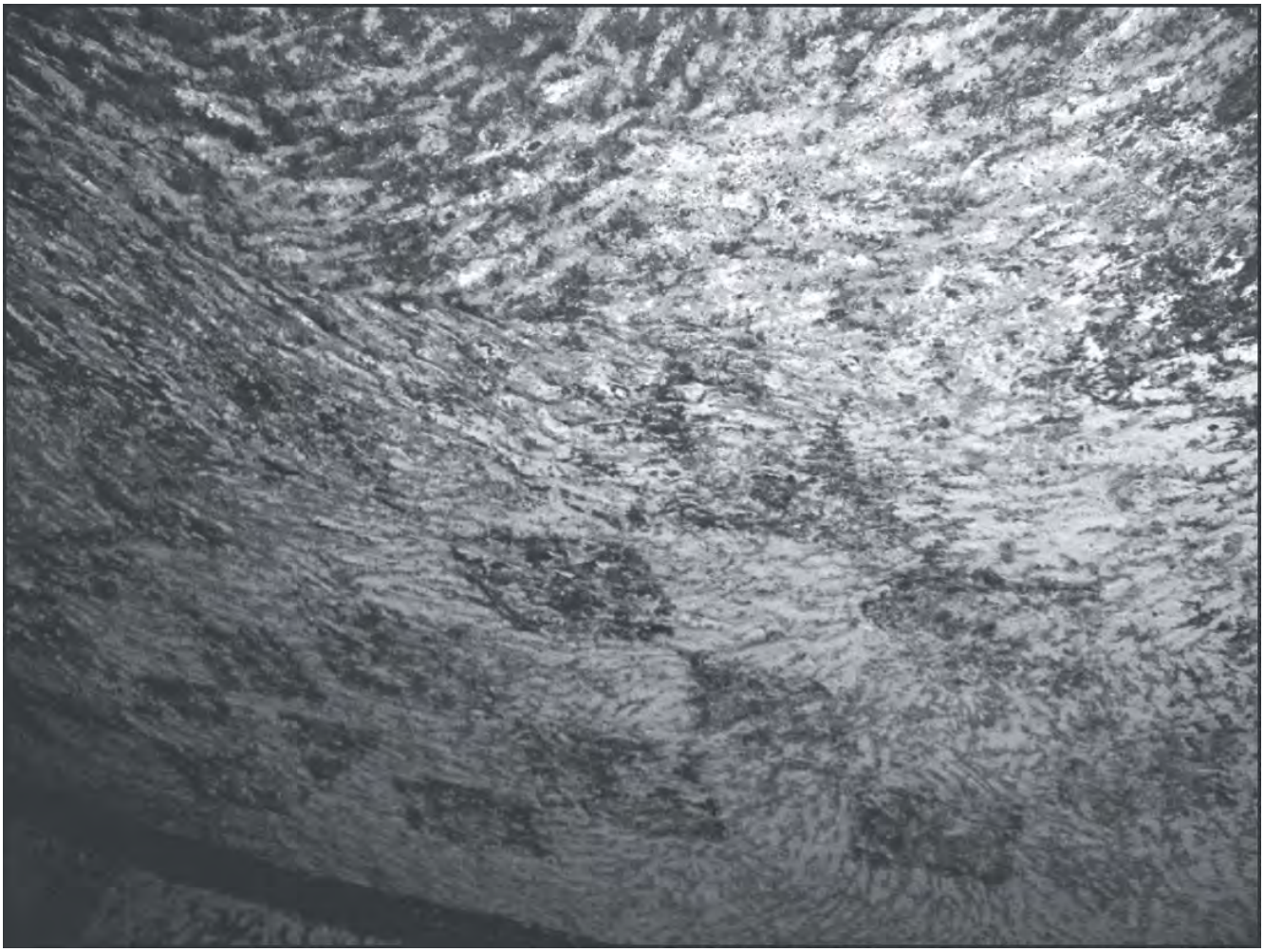

Figure 16.12 The chequered pattern painted on the vault of a side niche of the Tomba della Scacchiera, Italy (photo: Antonello Porcu)

Figure 16.13 The shallow pitched-roof of Tomba della scacchiera, Italy (photo: Antonello Porcu)

Within the principal room of the Tomba della scacchiera and prior to the monument being unceremoniously blocked-up, co-author Antonello Porcu managed to take a number of digital images where *Ozieri* period artists had not only carved a room to resemble a living house but had also ornately-decorated the walls using red pigmentation to create a series of spirals and linear decoration that highlighted the lintels, door rebates, skirting and roof. In addition, probably the same artist(s) had also decorated the roof in a fine black on white chequered pattern (hence the name of the tomb). It is probable that such elaborate decoration was commissioned for its occupants rather than periodic visitors.

Figure 16.14 The carved beams on the roof of Tomb VIII at Puttu Codinu, Italy (photo: Diego Meozzi/Stone Pages)

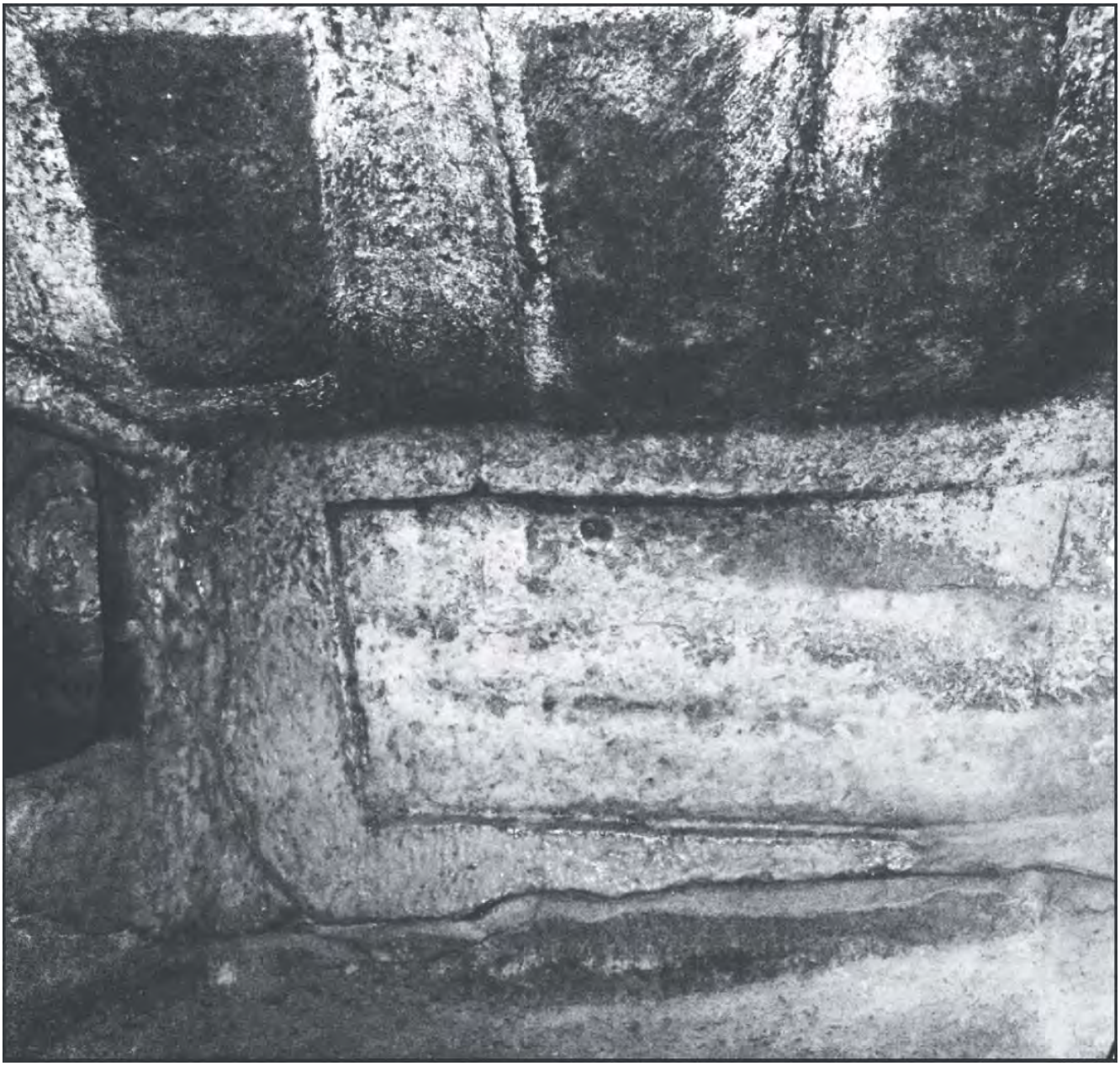

Figure 16.15 The side walls of the principal room within Tomba della scacchiera, Italy (photo: Antonello Porcu)

It is more that probable that other necropoli would have undergone the same treatment; however, due to extreme fluctuations in temperature and humidity over the millennia and relatively recent looting and vandalism, most, if not all fragile decoration using applied pigments has long-since disappeared from many a monument.[10]

Figure 16.16 The striking 70cm-tall red spirals of the Tomba della scacchiera, Italy (photo: Antonello Porcu)

The term *Houses for the Dead* appears widely within anthropological and ethnographic literature (e.g. Hodder 1984; Tilley 1996; Waterson 1990). Although there is much reference and analogy with the archaeological record, there appears to be a human desire to associate day-to-day life with death. However, within many contemporary religions, the dead encounter a number of physical and metaphysical transformations. Either through body preparation or natural decay, the bodily-form eventually becomes bone. The face, in particular becomes unrecognisable; what was once someone is now something. Arguably, and over time, this inevitable transformation coincides with the deceased undertaking a journey to another world, be spiritual or otherwise. This journey would suggest that the *house of dead* was not the final resting place for the interned. Based on the anthropological and ethnographic record, the human spirit (the want for a better word) becomes detached from the physicality of the body and embarks on a journey beyond the house using selected grave goods provided (including foodstuffs). The house of dead therefore becomes a repository for the physical remains only. Parallels are certainly present within many contemporary religions in the way burial vaults, coffins, ceremonial dress for the dead and the garnish that accompanies the deceased clearly shows (Nash 2000). The house, a home-from-home for both the living and the dead would have probably been part of a complex life/death cycle. Within this cycle, the period of death, decay and mourning was paramount in the process of rebirth; instrumental though was (and is) the house - what it represents and where so much of this drama would have been played-out.

Notes

1 Also referred locally to as *Domus de Janas*.

2 Concerning the chronological range of the Ozieri Culture, start and demise dates vary.

3 Sometimes referred to as *Hypogée* or *Hypogea*.

4 Demartis (1999, 10) refers to these replicated sculpted buildings as *huts*.

5 This site, along with other necropolis sites of this period forms what is termed the Nurra Triangle (Demartis 1999).

6 The authors have used the original tomb numbering system by Contu (1964).

7 Represented by cultural material from the (local) *Filigosa, Abealzu, Monte Claro, Hut-urn* and *Bonnanaro* Cultures; artefacts from this period and from the necropolis are also found in nearby Nuraghe site suggesting a ritual association with domesticity.

8 Much of the fragile fabric within this monument is under severe threat of damage, mainly from water percolation due to unsympathetic conservation measures – see Meozzi & Arosio (2010) and Nash *et al*. (2010). The presence of the painted surfaces was identified through the use of a desk-based colour-filtration programme known as D-Stretch.

9 These distinct symbols that are usually carved (rather than painted) are found elsewhere in Neolithic burial-ritual monuments throughout southern and Western Europe

10 Digression: Given these factors, the authors are concerned about ongoing officially-led projects in Sardinia where sites such as Sa Pala Larga and Tomba della scacchiera are under severe threat; not from ongoing micro-climatic deterioration but form a lack of understanding of the implementation of long-term conservation principles (Meozzi & Arosio 2010; Nash *et al*. 2010). We suggest that greater transparency and openness to targeted academic and professional consultation is desperately needed.

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